ONKYO®

Audio Network Receiver

NC-500

Instruction Manual

Thank you for purchasing the Onkyo Audio Network Receiver.
Please read this manual thoroughly before making connections and plugging in the unit. Following the instructions in this manual will enable you to obtain optimum performance and listening enjoyment from your new Audio Network Receiver.
Please retain this manual for future reference.

Contents

Before using 2

Connections 18

Operations 26

Other Information 68

E

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

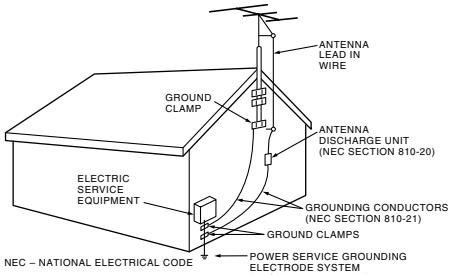
Important Safeguards

1. **Read Instructions** – All the safety and operating instructions should be read before the appliance is operated.
2. **Retain Instructions** – The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** – All warnings on the appliance and in the operating instructions should be adhered to.
4. **Follow Instructions** – All operating and use instructions should be followed.
5. **Cleaning** – Unplug the appliance from the wall outlet before cleaning. The appliance should be cleaned only as recommended by the manufacturer.
6. **Attachments** – Do not use attachments not recommended by the appliance manufacturer as they may cause hazards.
7. **Water and Moisture** – Do not use the appliance near water –for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.
8. **Accessories** – Do not place the appliance on an unstable cart, stand, tripod, bracket, or table. The appliance may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the appliance. Any mounting of the appliance should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

9. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
10. **Ventilation** – Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the appliance and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the appliance on a bed, sofa, rug, or other similar surface. The appliance should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided. There should be free space of at least 20 cm (8 in.) and an opening behind the appliance.
11. **Power Sources** – The appliance should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company.
12. **Grounding or Polarization** – The appliance may be equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
13. **Power-Cord Protection** – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

14. **Outdoor Antenna Grounding** – If an outside antenna or cable system is connected to the appliance, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna-discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure 1.
15. **Lightning** – For added protection for the appliance during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the appliance due to lightning and power-line surges.
16. **Power Lines** – An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
17. **Overloading** – Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
18. **Object and Liquid Entry** – Never push objects of any kind into the appliance through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the appliance.
19. **Servicing** – Do not attempt to service the appliance yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
20. **Damage Requiring Service** – Unplug the appliance form the wall outlet and refer servicing to qualified service personnel under the following conditions:
    A. When the power-supply cord or plug is damaged,
    B. If liquid has been spilled, or objects have fallen into the appliance,
    C. If the appliance has been exposed to rain or water,
    D. If the appliance does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the appliance to its normal operation,
    E. If the appliance has been dropped or damaged in any way, and
    F. When the appliance exhibits a distinct change in performance – this indicates a need for service.
21. **Replacement Parts** – When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
22. **Safety Check** – Upon completion of any service or repairs to the appliance, ask the service technician to perform safety checks to determine that the appliance is in proper operation condition.
23. **Wall or Ceiling Mounting** – The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
24. **Heat** – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
25. **Liquid Hazards** – The appliance shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases shall be placed on the appliance.

FIGURE 1:
EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE, ANSI/NFPA 70


ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)
NEC – NATIONAL ELECTRICAL CODE
S2898A

Precautions

1. Recording Copyright
Recording of copyrighted material for other than personal use is illegal without permission of the copyright holder.

2. AC Fuse
The fuse is located inside the chassis and is not user-serviceable. If power does not come on, contact your Onkyo authorized service station.

3. Care
From time to time you should wipe the front and rear panels and the cabinet with a soft cloth. For heavier dirt, dampen a soft cloth in a weak solution of mild detergent and water, wring it out dry, and wipe off the dirt. Following this, dry immediately with a clean cloth. Do not use rough material, thinners, alcohol or other chemical solvents or cloths since these could damage the finish or remove the panel lettering.

4. Power

WARNING

BEFORE PLUGGING IN THE UNIT FOR THE FIRST TIME, READ THE FOLLOWING SECTION CAREFULLY.

The voltage of the available power supply differs according to country or region. Be sure that the power supply voltage of the area where this unit will be used meets the required voltage (e.g., AC 120 V, 60 Hz) written on the rear panel.
Setting the STANDBY button to standby does not shut off the power completely. So the power cord should be removed from the AC outlet when the unit is not used for a prolonged time.

Note to CATV system installer:
This reminder is provided to call the CATV system installer's attention to Station 820-40 of the NEC, which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

FCC Information for User

CAUTION:

The user changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

For Canadian models

NOTE: THIS CLASS B DIGITAL APPARATUS COMPLIES WITH CANADIAN ICES-003.

For models having a power cord with a polarized plug:

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.
THIS CLASS B DIGITAL APPARATUS COMPLIES WITH CANADIAN ICES-003.

Modèle pour les Canadien

REMARQUE: CET APPAREIL NUMÉRIQUE DE LA CLASSE B EST CONFORME À LA NORME NMB-003 DU CANADA.

Sur les modèles dont la fiche est polarisée:

ATTENTION: POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.
CET APPAREIL NUMÉRIQUE DE LA CLASSE B EST CONFORME À LA NORME NMB-003 DU CANADA.

Memory Preservation

This unit does not require memory preservation batteries. A built-in memory power back-up system preserves the contents of the memory during power failures and even when the unit is unplugged. The unit must be plugged in order to charge the back-up system.
The memory preservation period after the unit has been unplugged varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of a few weeks after the last time the unit has been unplugged. This period is shorter when the unit is exposed to a highly humid climate.

Contents

Before using

Important Safeguards 2

Precautions 4

Contents 6

Features 9

Net-Tune features 9
Internet radio features 9
Receiver features 9
Other features 9

Supplied accessories 10

Supplied accessories 10
Options 10
Installing the remote controller batteries 11
Using the remote controller 11

Index parts and facilities 12

Front Panel 12
Display 13
Rear Panel 15
Remote Controller 16
Changing the remote controller mode 17

Connections

Connecting the NC-500 18

Connecting speaker systems 18
Connecting the NC-500 to your Ethernet Network 19
Connecting audio devices to the NC-500 21
Connecting the NC-500 with a television monitor 22
Connecting the AM antenna 23
Connecting the FM antenna 24
Operating components not reached by the remote controller signals (IR IN) 25

Contents

Operations

Understanding the basic operations before using the NC-500 26
- Connecting the power cord 26
- Turning on the power 26
- Selecting your desired source 26
- How to adjust the volume 27
- Temporarily turning off the sound 27

Setting the clock 28
- Setting date and time 28
- Displaying the date and time 29
- Changing the Clock Display 29

Installing the Net-Tune Central Software 30
- Features 30
- System Requirements 30
- Before Installing Net-Tune Central 31
- Installation 33
- How To Uninstall Net-Tune Central 35
- Checking the Installation and Starting Net-Tune Central 35

Listening to Music Saved on the PC 36
- Listening to a music track contained in the music library on Net-Tune Central 36
- About Play Modes 37
- Various Playback Modes 38
- Searching for a track 38
- Viewing Information on the display 39

Listening to Radio Broadcasts 41
- Manually tuning to a station 41
- Presetting FM/AM stations 41
- Listening to a preset station 43

Using timer functions 46
- Alarm feature 46
- Turning on or off the alarm function 48
- Turning off the timer function 48
- Snooze feature 48
- Sleep timer 49

Listening to Internet radio 50
- Listening to Internet radio 50
- Presetting Internet radio statios 52
- Listening to a preset Internet radio station 55
- Viewing information on the display 55
- Supported Music Formats 55

Contents

Listening to Music from an External Player 56

Configuring Various Settings 57

Network Settings 57
Ethernet settings 58
Changing the remote control code to resolve conflicts 63
Setting the Brightness in Standby Mode 64
Changing the On Screen Display Background Color 65
Net-Tune Server Settings 66

On Screen Display (OSD) 67

OSD menu flowchart 67

Other Information

Troubleshooting 68

POWER 68
SPEAKER 68
FM/AM TUNER 68
REMOTE CONTROLLER 68
TIMER 68
ETHERNET NETWORK 69
Error messages 70

Specifications 72

Features

The NC-500 is a network audio client that is connected via a LAN to a PC and allows you to enjoy music files saved on the PC, as well as Internet radio, from anywhere in your home. The NC-500 is integrated with Net-Tune Central software that helps you to take full advantage of your home networking and also to seamlessly integrate the NC-500 with existing audio devices.

Net-Tune features

Connecting the NC-500 and your PC through a network allows you to enjoy digitally recorded music without having to sit at your PC. It is also possible to set up a network in which your PC and existing audio system are interconnected via the NC-500.

Net-Tune Central, available on the Net-Tune Central Installation from http://www.onkyousa.com/net-tune/, is a PC application that turns your PC into a server. By running Net-Tune Central in conjunction with the NC-500, you can take full advantage of the NC-500. For example, you can:

- Save various music files on your server (a PC with Net-Tune Central installed), and digitally play back them through your audio system
- Play digitally recorded music files in MP3, WMA, and WAVE formats, except for WMA files having content protection

  Note:
  You cannot play WMA files that have content protection.
- Easily search for custom playlists by title, artist, album, or genre

Internet radio features

The NC-500 provides enhanced support for Internet radio and allows you to:

- Listen to both WMA and MP3 audio streamed from Internet radio stations
- Select stations by genre
- Preset up to 20 Internet radio stations

Receiver features

- An innovative circuit, VLSC (Vector Linear Shaping Circuitry), is adopted that generates pure analog signals from digital signals.
- The preset memory feature allows you to preset up to 40 FM and AM stations.
- Three ports are available for interaction with external audio devices: an AUX input port that can connect to a CD player or similar device, an Audio Line FIXED OUT port that can connect to a receiver with volume control, and an Audio Line VARIABLE OUT port that can connect to an amplifier without volume control.

Other features

- Alarm feature that allows you to play as the alarm sound a music file contained in the music library on the server and can be easily enabled/disabled
- Sleep timer
- Large-sized 20 × 4 dot matrix display
- OSD (On Screen Display) feature that allows you to easily view playlists and select tracks

* VLSC and the VLSC logo are registered trademarks of Onkyo Corporation.

* Net-Tune is a registered trademark of Onkyo Corporation.

* Designed for Windows Media™ Windows Media, and the Windows logo are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries.

Supplied accessories

Supplied accessories

The package include the following (note that the quantity of each item is shown between parentheses):

NC-500 (1)	
IR remote controller RC-508S (1)	Infrared remote controller.
Batteries - AA, R6, or UM-3 (2)	Batteries for the remote controller.
AM antenna	Antenna for receiving AM broadcasts
FM antenna	Antenna for receiving FM broadcasts

Options

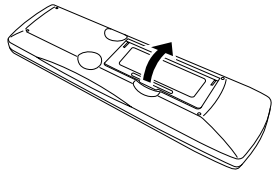
The Net-Tune Central music server software allows you to store and manage music files on your PC and listen to them using the NC-500. The users of the NC-500 can download the software from Onkyo's Web site. The URL is as follows:

http://www.onkyousa.com/net-tune/

Net-Tune Central	Music server software
• Online help for the Net-Tune Central	Online help for the Net-Tune Central software, describing how to use the software.

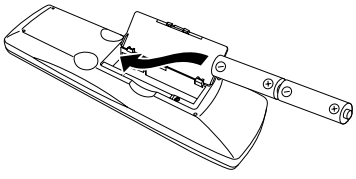
Installing the remote controller batteries

1. **Detach the battery cover by pressing the tab and pulling up the cover.**

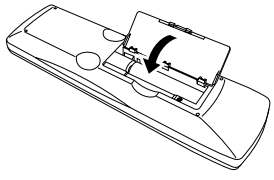


2. **Insert two AA-size batteries into the battery compartment.**

   Carefully follow the polarity diagram (positive + and negative - symbols) inside the battery compartment.



3. **After batteries are installed and seated correctly, attach the compartment cover.**

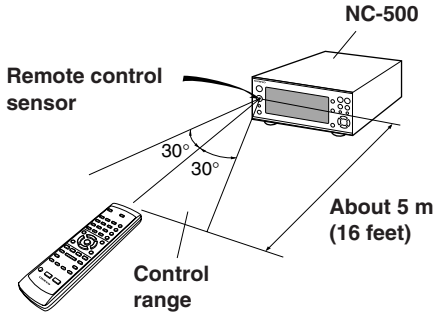


Notes:

- Do not use a new battery and an old battery together or different kinds of batteries.
- To avoid corrosion, remove the batteries if the remote controller is not to be used for a long time.
- Remove dead batteries immediately to avoid damage from corrosion. If the remote controller doesn't operate smoothly, replace both the batteries at the same time.
- The life of the batteries supplied is about six months but this will vary depending on usage.

Using the remote controller

Point the remote controller toward the remote control sensor.

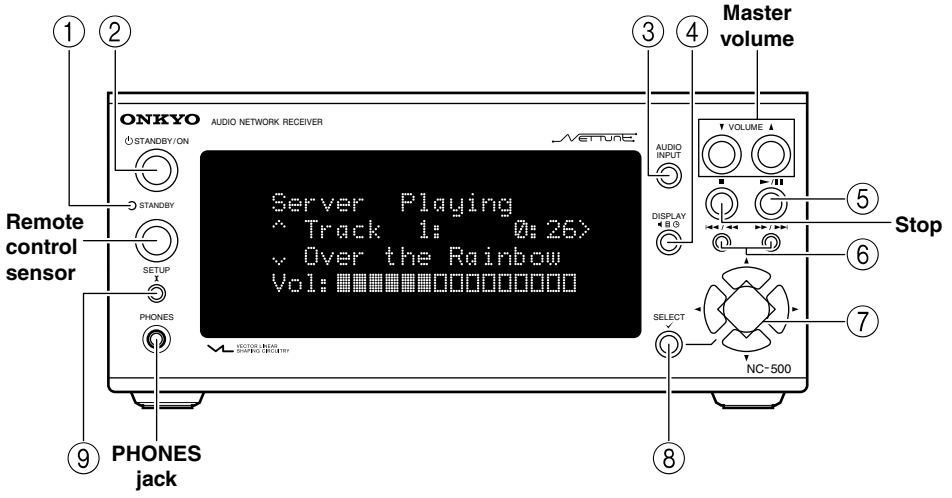


Notes:

- Place the unit away from strong light such as direct sunlight or inverted fluorescent light which can prevent proper operation of the remote controller.
- Using another remote controller of the same type in the same room or using the unit near equipment which uses infrared rays may cause operational interference.
- Do not put any object such as a book on the remote controller. The buttons of the remote controller may be pressed by mistake and drain the batteries.
- Make sure the audio rack doors do not have colored glass. Placing the unit behind such doors may prevent proper remote controller operation.
- If there is any obstacle between the remote controller and the remote control sensor, the remote controller will not operate.

Index parts and facilities

Front Panel



① **STANDBY indicator**

Lights when the NC-500 is in the Standby mode.

② **STANDBY/ON button**

Switches the power mode between Standby and On.

③ **AUDIO INPUT button**

Changes the playback source.

④ **DISPLAY button**

Changes the screen content.

⑤ **Play/Pause button**

Starts or pauses playback.

⑥ **F/B-Skip buttons**

Moves to the previous or next track. Holding down the either button fast-forwards or fast-rewinds the current track.

⑦ **Cursor Up/Down/Right/Left buttons**

Use these buttons when navigating through various settings, change a value, or move to another menu.

⑧ **SELECT button**

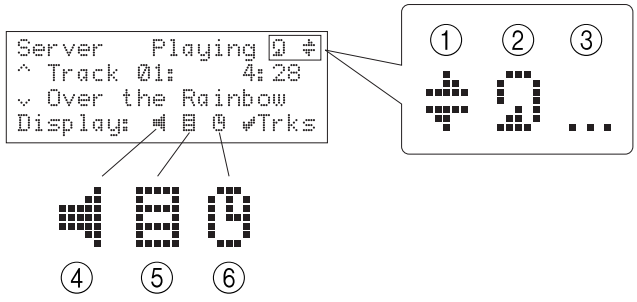
Saves a new setting.

⑨ **SETUP button**

Activates Setup/Menu mode.

Display

(1) Status display icons



① **Random**

This icon is displayed to indicate that the NC-500 is in random playback mode.

② **Repeat**

This icon is displayed to indicate that the NC-500 is in repeat mode.

③ **Ellipsis**

Indicates that the text continues.

④ **Status**

This icon is enclosed in square brackets to indicate that the NC-500 is in normal mode.

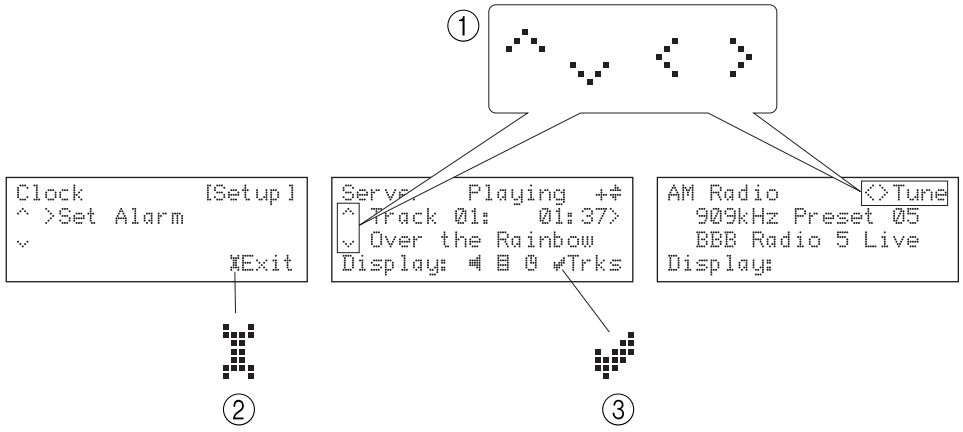
⑤ **Browse**

This icon is enclosed in square brackets to indicate that the NC-500 is in browse (title selection) mode.

⑥ **Clock**

This icon is enclosed in square brackets to indicate that the NC-500 is in clock display mode.

(2) Operation guide icons



① **Up Arrow/ /Down Arrow/Left Arrow/Right Arrow**

These icons are displayed to indicate that the corresponding cursor buttons are enabled to perform specific actions.
Example: "< >Tune" indicates that you can use the Cursor Left and Right buttons to perform tuning when the FM/AM radio feature is selected.

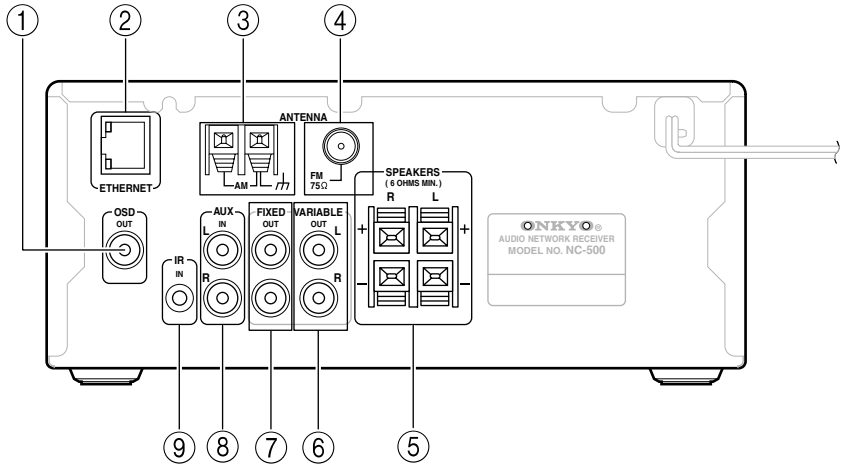
② **Setup**

This icon is immediately followed by the command you can execute by pressing the SETUP button.
Example: When the Setup icon is immediately followed by "EXIT", you can press the SETUP button to exit from the current menu.

③ **Select**

This icon is immediately followed by the command you can execute by pressing the SELECT button.

Rear Panel



① **OSD OUT**

This port can be used to redirect screen output from the front panel display to a television screen for quick and easy large-screen viewing.

② **ETHERNET**

This port connects to a broadband mode, router, hub, etc.

③ **AM**

This port connects to the AM radio antenna.

④ **FM**

This port connects to the FM radio antenna.

⑤ **SPEAKERS**

The terminals connect to the speakers.

⑥ **VARIABLE OUTPUT**

This port connects to an amplifier without volume control.

⑦ **FIXED OUT**

This port connects to the input port of a receiver with volume control.

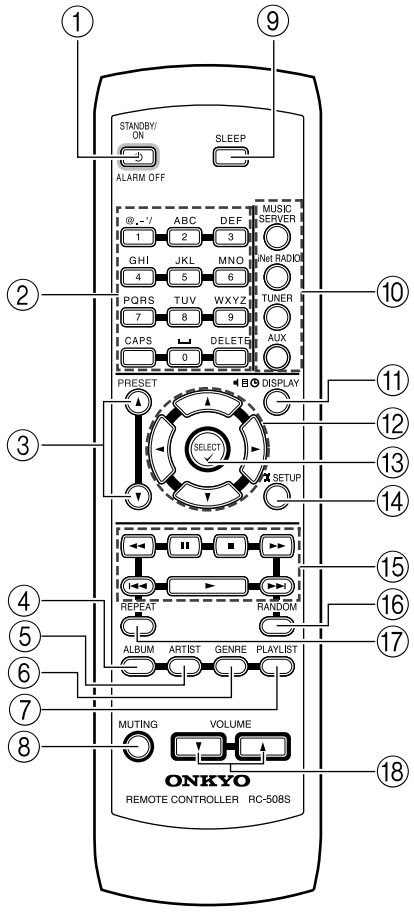
⑧ **AUX**

This port connects to an auxiliary device.

⑨ **IR IN**

If the NC-500 is located inside a rack or a cabinet that will not allow infrared beams to reach its IR sensor, you will need to relay beams with an external sensor.
Connect the external sensor to IR IN input. Then, place the sensor in an unblocked location at which you can easily point with the remote controller.

Remote Controller



① **STANDBY/ON button**

Turns on the NC-500 or place it in standby mode. When the NC-500 is in standby mode, you can use this button to turn off the alarm.

② **Numeric keys**

Press to select one of the preset stations or the track you want to play. When entering text, you use these buttons to type in letters and special characters.

③ **PRESET Up/Down buttons**

Press to navigate through preset stations for Internet radio or FM/AM radio.

④ **ALBUM button**

Press to invoke the Album selection menu when working with the Net-Tune Central.

⑤ **ARTIST button**

Press to invoke the Artist selection menu when working with the Net-Tune Central.

⑥ **GENRE button**

Press to invoke the Genre selection menu when working with the Net-Tune Central.

⑦ **PLAYLIST button**

Press to invoke the Playlist selection menu when working with the Net-Tune Central.

⑧ **MUTING button**

Press to activate the mute function. Press the button again to disable the mute function.

⑨ **SLEEP button**

Press to set the sleep function.

⑩ **MUSIC SERVER/iNetRADIO/TUNER/ AUX buttons**

Press to select an input source. The TUNER button toggles between FM and AM.

⑪ **DISPLAY button**

Press to change the display mode.

⑫ **Cursor ▲/▼/◄/► buttons**

Press to locate your selection.

⑬ **SELECT button**

Press to save a new setting.

⑭ **SETUP button**

Press to set up the NC-500.

⑮ **Operation buttons**

◄◄, ►► (FR/FF) buttons
Press to fast-rewind or fast-forward the current track.

▮▮ (Pause) button
Press to pause the playback.

► (Play) button
Press to start playback.

■ (Stop) button
Press to stop the playback.

⏮, ⏭ B/F-Skip buttons
Press to move to the previous or next track.

⑯ **RANDOM button**

Press to play the selected track list at random.

⑰ **REPEAT button**

Press to repeat the selected single track or track list.

⑱ **VOLUME ▲/▼ buttons**

Press to adjust the volume.

Changing the remote controller mode

When you use any Onkyo products other than the NC-500 in the same room, the operations made with the NC-500's remote controller may also cause the other Onkyo products to operate. To avoid this, you can change the remote controller mode both for the NC-500 and its remote controller choosing from three modes (1, 2 or 3).

To change the remote controller mode for the remote controller, hold the STANDBY button on the remote controller and press the SELECT button, then release these buttons simultaneously. Within 5 seconds after releasing the buttons, enter the appropriate mode (1, 2 or 3) using the numeric keys. The default mode is 1 for both the remote controller and NC-500.

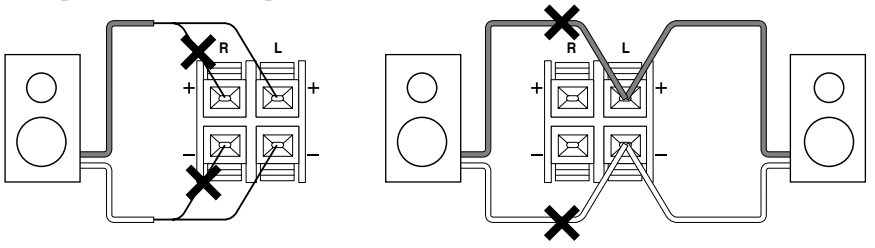
After changing the remote controller mode, make sure that the remote control code on the NC-500 is set to the same mode as the remote controller. (see Page 63)

Connecting the NC-500

Connecting speaker systems

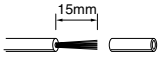
Before connecting

- The load impedance of each speaker must be at least 6 ohms.
- Do not use unnecessarily long or extremely thin speaker cords. Otherwise, the DC resistance of the speaker cords may become too high, lowering the damping factor and causing the sound quality to deteriorate.
- Do not connect the speaker cord to the L and R connectors at the same time and do not connect two or more speakers to the same speaker connectors.



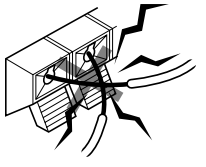
Preparing the speaker cords for connection

1. **Strip 15 mm from the end of each cord.**

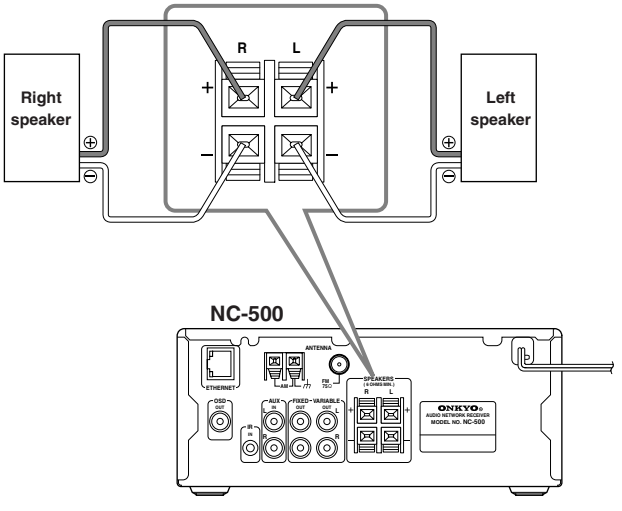


2. **Twist the stripped end of the cord.**

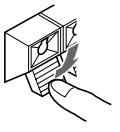
Note:
To prevent damage to circuits never short-circuit the positive (+) and negative (–) speaker wires.



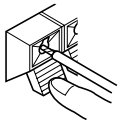
Connecting the speaker cords to the speaker connectors



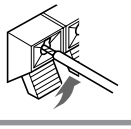
1. **Press down the lever.**



2. **Insert the wire into the hole.**



3. **Release the lever to replace it.**



Connecting the NC-500 to your Ethernet Network

Requirements for listening to both Internet radio stations and music files saved on the PC

To listen to both media, you must use your router's DHCP functionality. Also, your PC must be configured to have its IP address dynamically assigned.

Listening to both Internet radio stations and music files saved on the music server requires the following:

■ **PC:** Minimum PC system requirements

- Intel® Pentium® III 600MHz or higher CPU
- Windows® 98SE, ME, 2000, XP
- RAM 128 MB (Windows® 98SE, ME, 2000),
  256 MB (Windows® XP)
- Ethernet networking for PC
- More than 20 MB of free hard disk space

■ **Modem** (a device that provides Internet connections via leased lines; e.g., a cable modem, xDSL modem, terminal adapter)

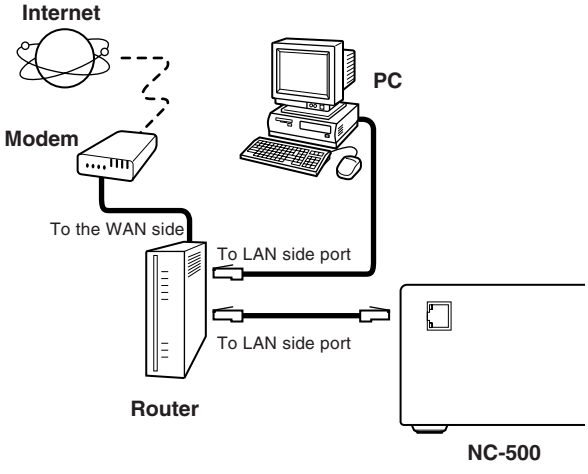
* To have access to Internet, you typically need to make a contract with an Internet service provider (ISP). Modem requirements differ from ISP to ISP; for detailed information, consult with your ISP or PC retailer.

■ **Router (gateway)** (a device that enable multiple PCs or devices to connect to the Internet simultaneously)

* Some routers have built-in modem functionality. Router requirements differ from ISP to ISP; for detailed information, consult with your ISP or PC retailer.

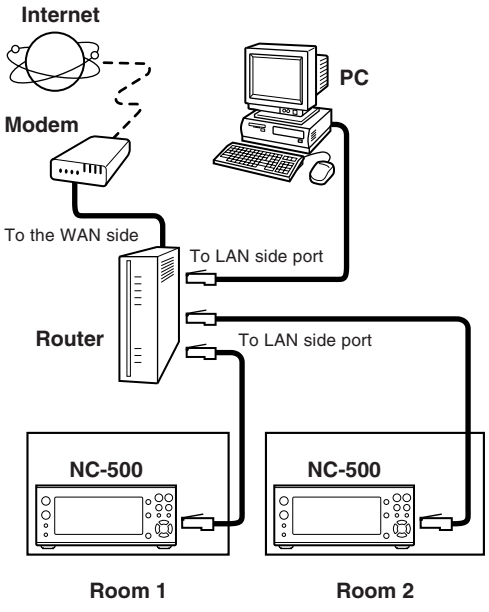
- DHCP (Dynamic Host Configuration Protocol) based network (requires a DHCP-enabled router)
- 100Base-TX switch built-in broadband router (recommended)

■ **Ethernet CAT-5 cable**



Connecting the NC-500

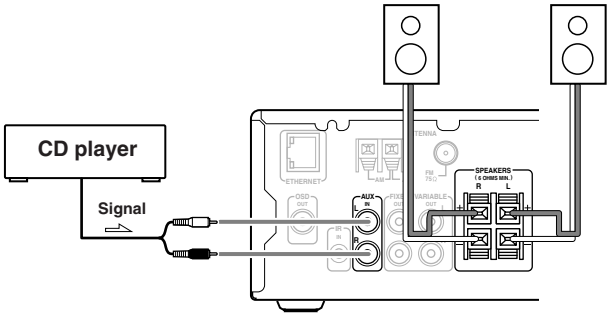
Tips:
Connecting a router with more than one unit of the NC-500 enables multiple users to listen to different tracks at the same time. Note that you can connect up to 3 units of the NC-500 to a router.



Connecting audio devices to the NC-500

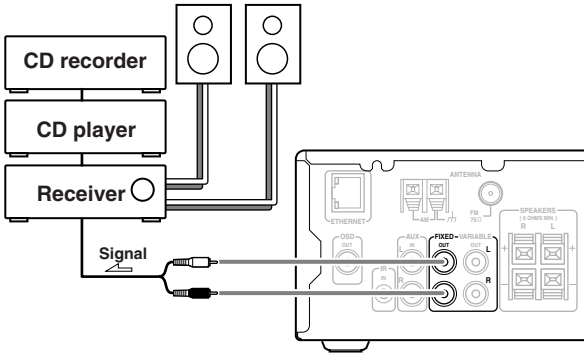
Connecting a player

The NC-500 supports various audio player devices.
To use a player in conjunction with the NC-500, connect the audio connection cable between the NC-500's AUX IN port and the player's AUDIO OUT port.



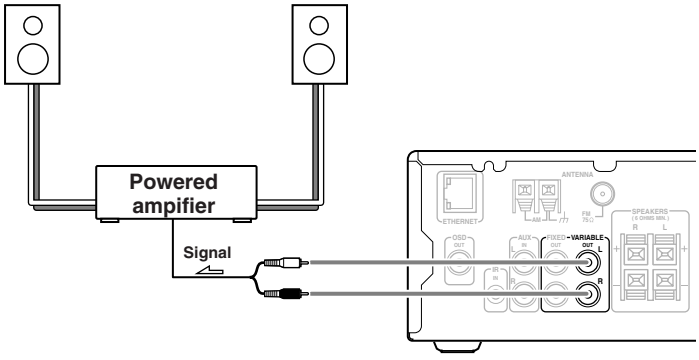
Advanced techniques for connecting external devices

The NC-500 can also be connected with a receiver that is already connected with a speaker set, player, or recorder.
If the receiver is complete with volume control, connect the audio connection cable between the NC-500's FIXED OUT port and the receiver's input port. In this case, use the receiver to adjust the volume.



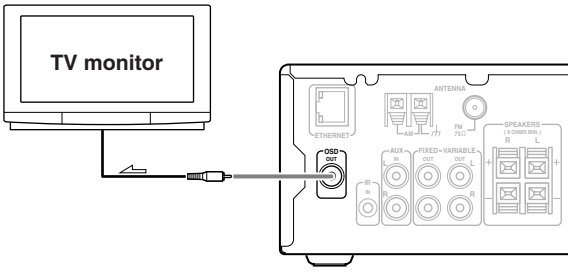
Connecting the NC-500

If the powered ampifier does not have volume control, connect the audio connection cable between the NC-500's VARIABLE OUT port and the powered ampifier's input port. In this case, use the NC-500 to adjust the volume.



Connecting the NC-500 with a television monitor

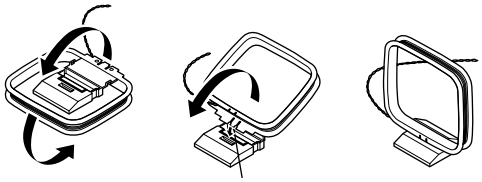
You can connect the NC-500 with a television receiver to redirect screen output from the front panel display to the television screen for quick and easy large-screen viewing.
To do so, connect the NC-500's OSD OUT port to the television receiver's VIDEO IN port.



Connecting the AM antenna

Assembling the AM loop antenna

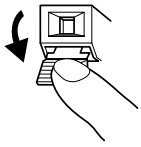
Assemble the loop antenna as shown in the illustration.



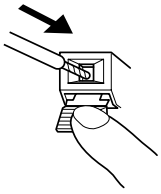
Insert into the hole

Connecting the antenna cable

1. **Press down the lever.**



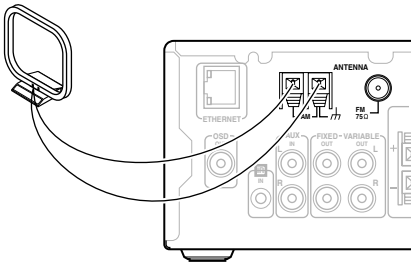
2. **Insert the wire into the hole.**



3. **Release the lever to replace it.**

Connecting the AM loop antenna

The AM loop antenna is for indoor use only. Set it in the direction and position where you receive the clearest sound. Put it as far as possible away from this unit, TV, speaker cables, PC, hub, router, power cords, and other units of NC-500.

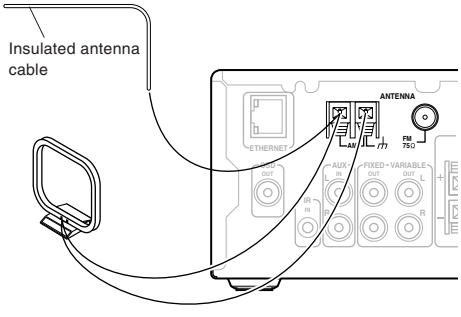


Connecting an AM outdoor antenna

When reception is not satisfactory with the supplied AM loop antenna alone, connection of an outdoor antenna is recommended.
The outdoor antenna will be more effective if it is stretched horizontally above a window or outside.

- Do not remove the AM loop antenna.
- To avoid the risk of lightning and electrical shock, grounding is necessary. Follow item 14 of the “Important Safeguards” on page3 when you install the outdoor antenna.

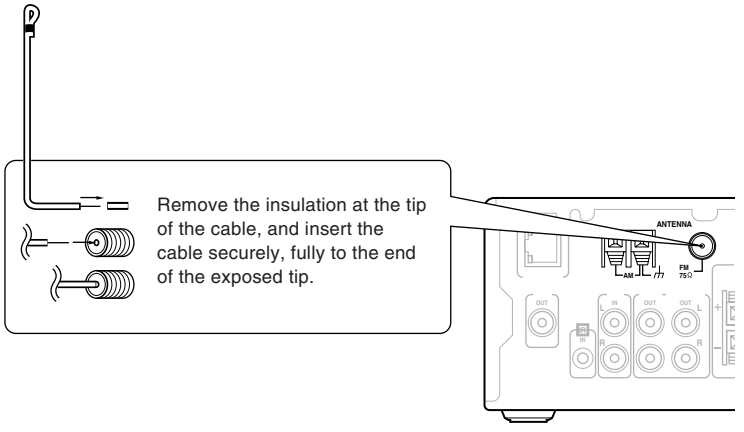
Outdoor antenna



Connecting the FM antenna

FM indoor antenna

The supplied FM antenna is for indoor use only. Move the antenna in various directions until the clearest signal is received. Fix it with push pins or similar implements in the position that will cause the least amount of distortion.

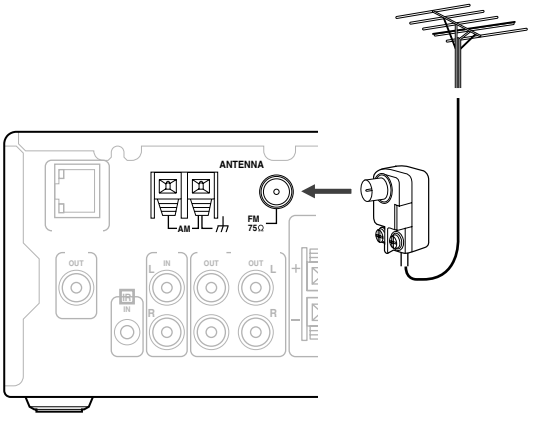

Remove the insulation at the tip of the cable, and insert the cable securely, fully to the end of the exposed tip.
ANTENNA
AM
FM 75Ω

FM outdoor antenna

If the reception is not very clear with the supplied FM antenna, the use of an outdoor antenna is recommended.

Please make sure that you follow the considerations below regarding the location.

- Keep the antenna away from noise sources (neon signs, busy roads, etc.)
- It is dangerous to put the antenna close to power lines. Keep it well away from power lines, etc.
- To avoid the risk of lightning and electrical shock, grounding is necessary. Follow item 14 of the "Important Safeguards" on page 3 when you install the outdoor antenna.



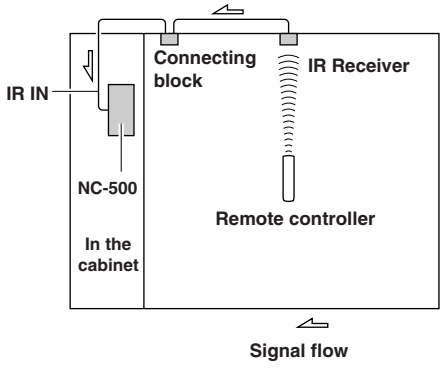
Operating components not reached by the remote controller signals (IR IN)

The following equipment (sold separately) is essential for operation:

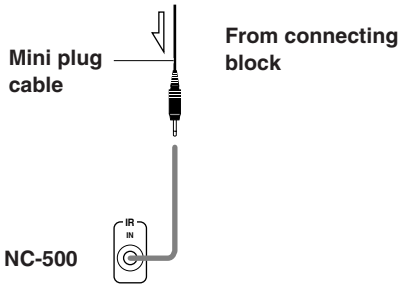
- Onkyo's Multi-Room System kits (IR Remote Controller Extension System), or
- Multiroom A/V distribution and control systems from Niles® and Xantech® to name a few.

If the remote controller signal does not reach the NC-500 remote sensor

If the NC-500 is located inside a cabinet or other enclosure where the infrared rays from the remote controller cannot enter, then operation with the remote controller will not be possible. In such a case, it will be necessary to install a remote sensor at a location outside of the cabinet for the infrared rays from the controller to reach.



Make connection as shown below. Do not plug the equipment into the power source until the connection is complete.



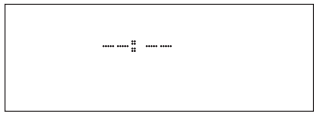
Understanding the basic operations before using the NC-500

Connecting the power cord

Plug the power cord into wall socket.

Turning on the power

When the power cord is connected, the display shown below appears.



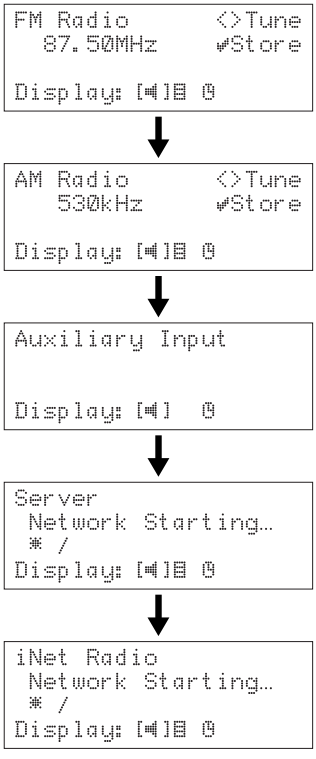
Press the STANDBY/ON button on the NC-500 or remote controller to turn on the power.

NC-500

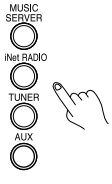
Remote controller

Selecting your desired source

You can press the AUDIO INPUT button to switch among the available input sources as follows:
FM → AM → AUX → SERVER → iNet Radio



You can also switch among the input sources using the selector on the remote controller.

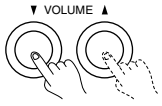


MUSIC SERVER ..... Net-Tune server
iNet Radio ..... Internet radio
TUNER ..... FM/AM tuner.
The button toggles between FM and AM.
AUX ..... External input

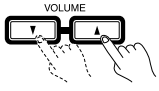
How to adjust the volume

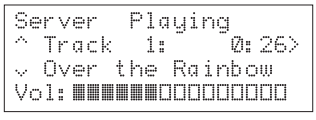
Use the VOLUME ▲/▼ buttons on the main unit or remote controller of the NC-500.
The volume display appears when a volume button is pressed and disappears 2 seconds after the volume button is pressed or immediately after the other button is pressed.

NC-500



Remote controller





Temporarily turning off the sound

To turn off the sound momentarily, press MUTING button on the remote controller. When pressed “MUTING” is displayed on the NC-500. Press the MUTING button again to turn the sound back on.

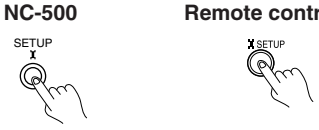
Remote controller

Setting the clock

Setting date and time

1. Activate menu mode.

Press the SETUP button to display the setup items in the display area.




```
Setup
^ >Clock
v
                  ¥Exit
```

2. Press the SELECT button.

3. Press the Cursor ▲/▼ button to display "Set Clock" in the display area.

```
Clock          [Setup]
^ >Set Clock
v
                  ¥Exit
```

Press SELECT button.

4. Press the Cursor ▲/▼ button to set the time.

5. Press the Cursor ► button to display "Mins".

Press the Cursor ▲/▼ button to set the minute.

```
Clock     [Set Clock]
     9:00 AM  Mins >
 January   01 2000
^v Adjust #Set  ¥Exit
```

6. Press the Cursor ► button to display "AM/PM".

Press the Cursor ▲/▼ button to select either "AM" or "PM".

```
Clock     [Set Clock]
     9:15 AM  AM/PM>
 January   01 2000
^v Adjust #Set  ¥Exit
```

7. Press the Cursor ► button to display "Month".

Press the Cursor ▲/▼ button to set the month.

```
Clock     [Set Clock]
    09:15 PM  Month>
 January   01 2000
^v Adjust #Set  ¥Exit
```

8. Press the Cursor ► button to display "Day".

Press the Cursor ▲/▼ button to set the day of the month.

```
Clock     [Set Clock]
    09:15 PM  Day  >
 September 01 2000
^v Adjust #Set  ¥Exit
```

9. Press the Cursor ► button to display "Year".

Press the Cursor ▲/▼ button to set the year.

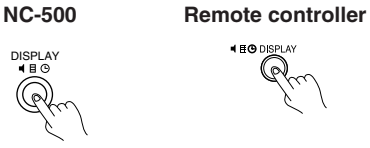
```
Clock     [Set Clock]
    09:15 PM  Year >
 September 01 2002
^v Adjust #Set  ¥Exit
```

Note:
Press the SELECT button to save the settings you have just made.
To return to normal display, press the SETUP button.

Setting the clock

Displaying the date and time

The display changes each time you press the DISPLAY button.



(Ex.)

```
Server  Playing
^ Track  1:     0:10>
v Over the Rainbow
Display: [◀]▤ 0 ↵Trks
```

↓

```
Server       [Library]
^ >Albums
v
Display: ◀[▤]0
```

↓

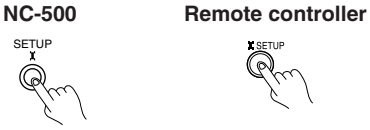
```
Clock
       10:41 AM
  January  1 2002
Display: ◀ ▤[0]
```

Changing the Clock Display

You can select the clock display mode from the "12H AM/PM" or "24H" type.

1. Activate menu mode.

Press the SETUP button to display the setup items in the display area.




```
Setup
^ >Clock
v
                  ⧗Exit
```

2. Press the SELECT button.

```
Clock          [Setup]
^ >Alarm On/Off
v   [Off]
                  ⧗Exit
```

3. Press the Cursor ▲/▼ button to display "Mode[12Hour]" in the display area.

Press the SELECT button.

```
Clock          [Setup]
^ >Mode[12Hour]
v   [12Hour]
                  ⧗Exit
```

4. Press the Cursor ▲/▼ button to select the "12H AM/PM" or "24H" type.

```
Clock    [Mode 12/24]
^   24H
v
          ↵Set   ⧗Exit
```

5. Press the SELECT button to save the change.

To return to normal display, press the SETUP button.

Installing the Net-Tune Central Software

Features

Music library server functionality that enables LAN-based music streaming

Installing the Net-Tune Central on a PC turns it into a music library server that streams digitally recorded music files over a LAN so that they can be played by NC-500 functionality. One server can stream to multiple units of NC-500 at the same time.

The music streaming service is build on Onkyo's proprietary NTSP protocol, which is an extension to TCP/IP, thereby providing high response times.

In addition to providing the music streaming server functionality, the Net-Tune Central software allows you to automatically searches music files saved on the PC's hard disks, then easily register the files with the server software.

Supported music formats include WAVE (PCM), MP3, and WMA. The WAVE (PCM) format provides non-compressed high-quality audio data. The MP3 format, widely used over the Internet, accomplishes data compression at near-CD sound quality. The WMA, developed by Microsoft®, achieves higher data compression than MP3 without degrading the sound quality.

Editable music library

With the Net-Tune Central software, you can edit music titles, artist names, genre names, and so on, while you can also create new genre names, for all music files saved on the PC's hard disks.

System Requirements

PC Requirements

CPU: Intel® Pentium® III 600 MHz or higher

Operating system: Microsoft Windows® 98SE/ME/2000/XP Home Edition/XP Professional

RAM: 128 MB (Windows® 98SE, ME, 2000),
256 MB (Windows® XP)

Free hard disk space required for installation: 20 MB

* Saving music files requires extra free hard disk space.

Ethernet networking for PC

File Format: MP3/WMA (Approximately 1 MB for 1 minute)
WAVE (Approximately 10 MB for 1 minute)

How much free space is actually required also depends somewhat on such factors as the format and reserved space of your hard disk, and the bit rate at which you make recordings.

Downloading the Net-Tune Central

1. Go to the Net-Tune Central download page (http://www.onkyousa.com/net-tune/) using the PC connected to Internet.
2. Download the Net-Tune Central according to the instructions on the download page.

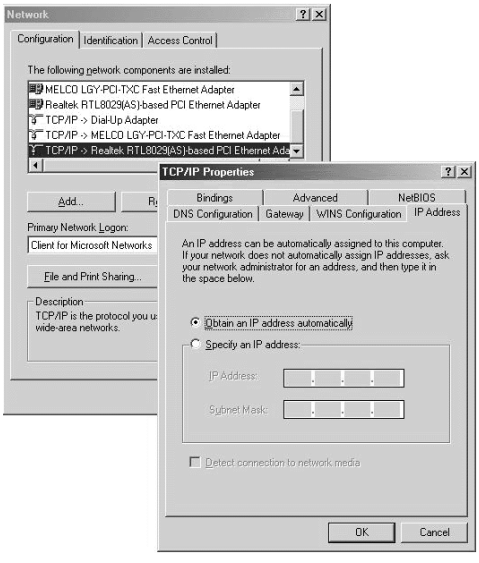
Before Installing Net-Tune Central

1. Check the network adapter:

Open “System” from Control Panel, and then open “Device Manager.”
Check the “Network adapter” item to see that your network adapter is up and running.
If your network adapter is not listed or it is not correctly functioning, reinstall the network interface card or the correct device driver.

2. Check the TCP/IP protocol settings:

Net-Tune Central communicates with a receiver using the TCP/IP protocol.
Open “Network” from Control Panel, and make sure that the TCP/IP protocol is installed and correctly configured.

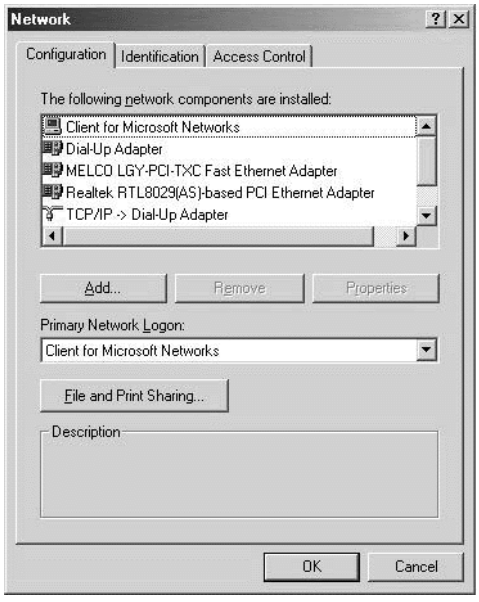


3. Check the computer name:

You need to check the computer name required for your receiver to identify the Net-Tune computer (the PC on which Net-Tune Central is installed).

Open “Network” from Control Panel, and make sure that “Microsoft Network Client” is installed.

To view or change the computer name, open “System” from Control Panel.



Installation

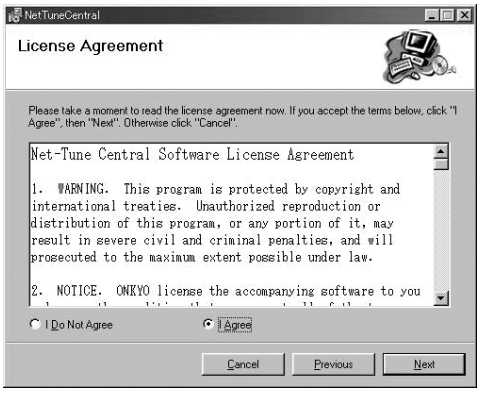
1. Run the Setup program:

Open the Net-Tune Central folder, and then double-click Setup.exe. When you are presented with the opening screen (as shown on the right), click “Next”.

NetTuneCentral
Welcome to the NetTuneCentral Setup Wizard
The installer will guide you through the steps required to install NetTuneCentral on your computer.
Click "Next" to continue.
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Cancel
Previous
Next

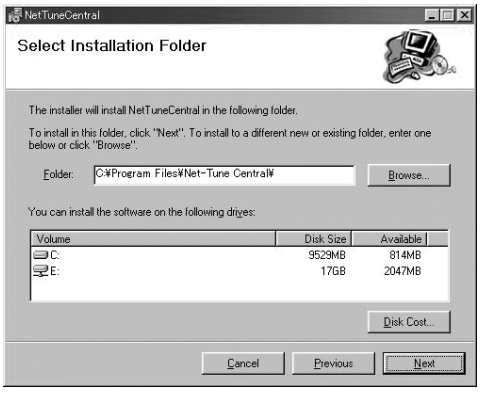
2. Read and accept the license agreement:

Read the license agreement and click “Next” if you accept the agreement.


NetTuneCentral
License Agreement
Please take a moment to read the license agreement now. If you accept the terms below, click "I Agree", then "Next". Otherwise click "Cancel".
Net-Tune Central Software License Agreement
1. WARNING. This program is protected by copyright and international treaties. Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will prosecuted to the maximum extent possible under law.
2. NOTICE. ONKYO license the accompanying software to you
I Do Not Agree
I Agree
Cancel
Previous
Next

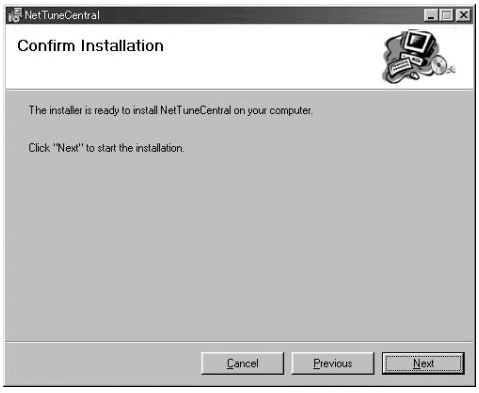
3. Check the installation directory:

Check the installation directory, and click “Next:.



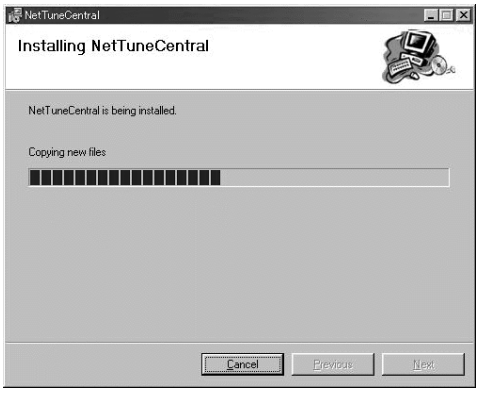
4. Confirm the installation:

Now the Setup program is ready to install Net-Tune Central.
Click “Next” to start the installation process.



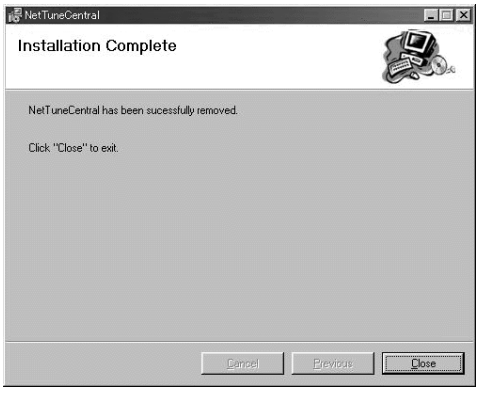
5. Wait while the installation process is in progress:

You are presented with the progress of installation. When the process completes successfully, you are returned to the screen in step 6.



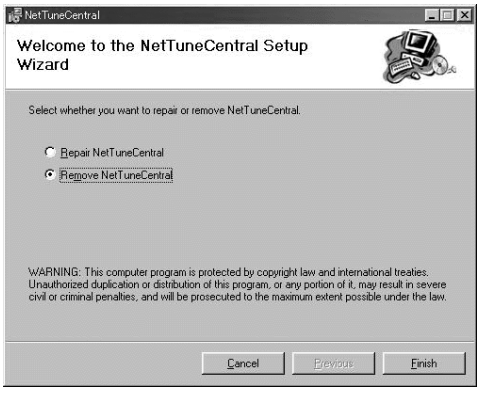
6. Finish the setup:

Now you are ready to run Net-Tune Central.
Click “Close”.



How To Uninstall Net-Tune Central

Run the Setup program:
Open the Net-Tune Central folder, and then double-click Setup.exe.
Select “Remove NetTuneCentral”.
Click “Finish” to start the uninstallation process.


NetTuneCentral
Welcome to the NetTuneCentral Setup Wizard
Select whether you want to repair or remove NetTuneCentral.
Repair NetTuneCentral
Remove NetTuneCentral
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Cancel
Previous
Finish

Checking the Installation and Starting Net-Tune Central

Once you have successfully installed Net-Tune Central, you can access the “Net-Tune Central” folder via the “Start” menu.
To start Net-Tune Central, select “Start Net-Tune Central” from the “Net-Tune Central” folder.
For detailed information on setting and using Net-Tune Central, refer to the online manual.

Listening to Music Saved on the PC

The NC-500 comes with Net-Tune Central software that turns your PC into a Net-Tune server. Installing Net-Tune Central on a PC connected with the NC-500 via a LAN enables you to use the NC-500 to listen to any music track contained in the music library residing on that PC. Before you can connect to the Net-Tune Central and listen to music, you must install and set up the Net-Tune Central. For more information, see the Net-Tune Central Help.

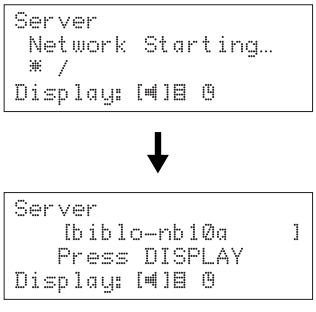
Listening to a music track contained in the music library on Net-Tune Central

1. Make sure that the Net-Tune Central software is running on at least one PC on your LAN.

For information on the Net-Tune Central, see the Net-Tune Central Help.

2. Set the NC-500's input source to "Server":

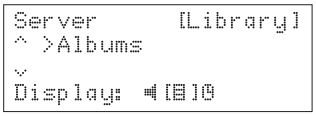
Press the AUDIO INPUT button repeatedly or the MUSIC SERVER button on the remote controller to display "Server".



When the NC-500 is connected to several Net-Tune servers (PCs running Net-Tune Central), you can select one of the servers by specifying its computer name. (Page 66)

3. Select a key for searching tracks:

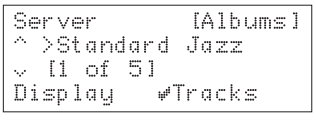
Press the DISPLAY button to switch to browse mode.



Press the Cursor ▲/▼ button repeatedly to browse to one of the available search modes (Albums, Artists, Genres, Playlists) and then press the SELECT button.

4. Select your desired album, artist, genre, or playlist.

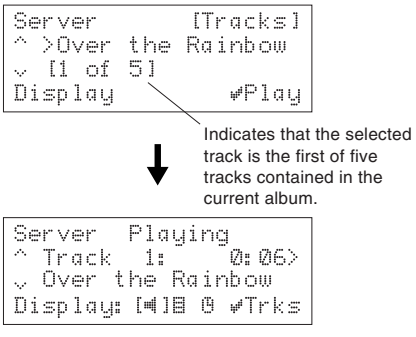
Choose your desired album, artist, genre, or playlist respectively according to your selected search mode using the Cursor ▲/▼ button.



Press the SELECT button.

5. Choose your desired track.

Press the Cursor ▲/▼ button repeatedly to select the track you want to play.


Server [Tracks]
>Over the Rainbow
[1 of 5]
Display Play
Indicates that the selected track is the first of five tracks contained in the current album.
Server Playing
Track 1: 0:06>
Over the Rainbow
Display: 0 Trks

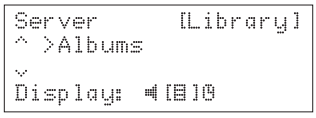
6. Press the SELECT button to play.

About Play Modes

On the Net-Tune Central, you can define play modes that allow you to play tracks by album, by genre, and so on. For more information on the Net-Tune Central, see the Net-Tune Central Help.

Playback by album

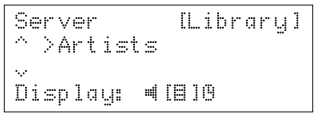
1. Press the DISPLAY button to switch to browse mode.
2. Select “Albums” using the Cursor ▲/▼ button.



3. Press SELECT button to display the album list.
4. Select your desired album using the Cursor ▲/▼ button and then press the SELECT button.
5. Select your desired tracks using the Cursor ▲/▼ button.
6. Press the SELECT button to start playing the tracks that belong to your selected album.

Playback by artist

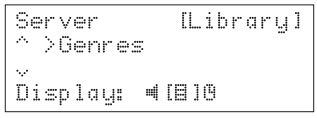
1. Press the DISPLAY button to switch to browse mode.
2. Select “Artists” using the Cursor ▲/▼ button.



3. Press SELECT button to display the artist list.
4. Select your desired artist using the Cursor ▲/▼ button and then press the SELECT button.
5. Select your desired tracks using the Cursor ▲/▼ button.
6. Press the SELECT button to start playing the tracks that belong to your selected artist.

Playback by genre

1. Press the DISPLAY button to switch to browse mode.
2. Select “Genres” using the Cursor ▲/▼ button.

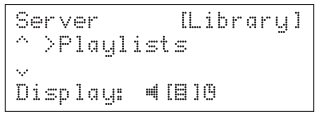


3. Press SELECT button to display the genre list.
4. Select your desired genre using the Cursor ▲/▼ button and then press the SELECT button.
5. Select your desired tracks using the Cursor ▲/▼ button.
6. Press the SELECT button to start playing the tracks that belong to your selected genre.

Playback by playlist

For creating a playlist, see the Net-Tune Central Help.

1. Press the DISPLAY button to switch to browse mode.
2. Select “Playlists” using the Cursor ▲/▼ button.



3. Press SELECT button to display the list of playlist names.
4. Select your desired playlist using the Cursor ▲/▼ button and then press the SELECT button.
5. Select your desired tracks using the Cursor ▲/▼ button.
6. Press the SELECT button to start playing the tracks that belong to your selected playlist.

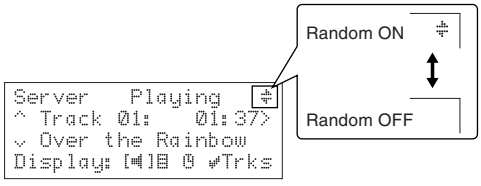
Tips:

The tracks are played by the PC that is running the Net-Tune Central software. It may take some time for the PC to start the playback because it must process the data after you have operated the NC-500.

Various Playback Modes

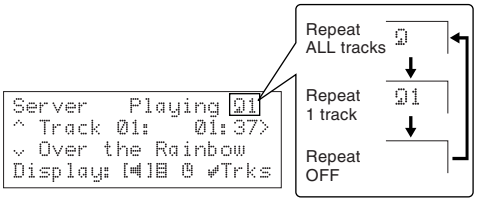
• Random mode

You can press the RANDOM button on the remote controller to switch to Random mode, in which the NC-500 plays the tracks contained in your selected album or track list at random. To exit from Random mode, press the RANDOM button again.



• Repeat mode

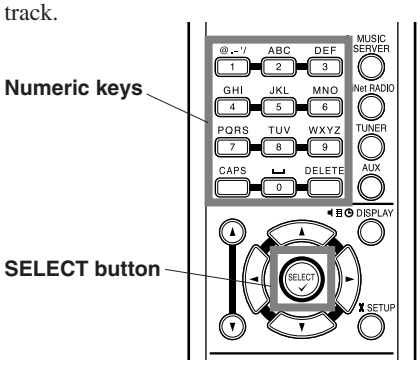
You can press the REPEAT button on the remote controller to switch to Repeat mode, in which the NC-500 repeatedly plays all the tracks in your selected album or track list.
Pressing the REPEAT button once will repeat the all the tracks, and then pressing the REPEAT button again will repeat the current track.
To exit from Repeat mode, press the REPEAT button repeatedly until “Repeat OFF” displayed.



Searching for a track

Search by track number

When the NC-500 is in the browse mode after pressing the DISPLAY button, you can use the numeric keys on the remote controller to directly specify the number of your desired track.
Just type in the number of your desired track and press the SELECT button to start playing the track.



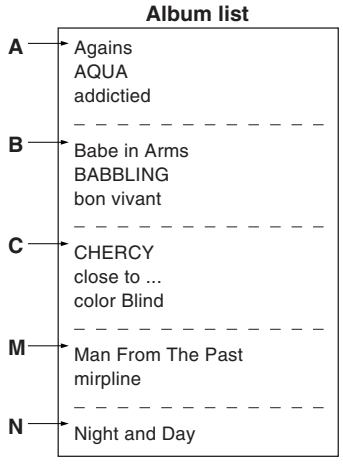
Search by initial letter

You can search for a Album title, Artist name, Genre, or Playlist name by just typing in its initial letter using a numeirc button on the remote controller.

Pressing a numeric button on the remote controller jumps to the first track or album that begins with that letter. If there is no item beginning with the letter, the display remains the same. Note that this feature is case-insensitive.

For example, each press of the 2 button cycles through the letters assigned to the button in the following order:

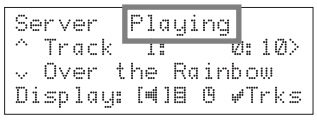
A → B → C → A ...



Viewing Information on the display

Status Messages

Different status messages appear on the display, depending on the playback status.



Playing: ..... The current track is playing.

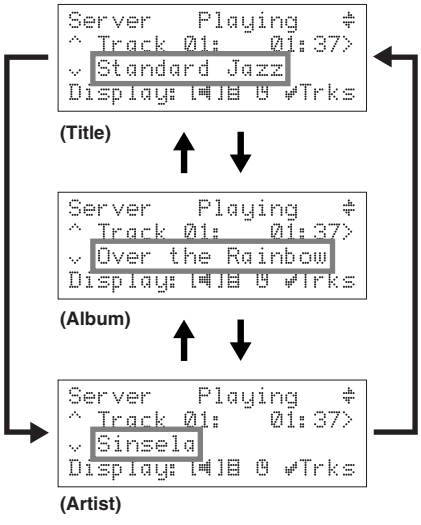
Stopped: ..... The current track is stopped.

Paused: ..... The current track is paused.

Seeking ..... The current track is fast-
Seeking<> rewinding or fast-forwarding.

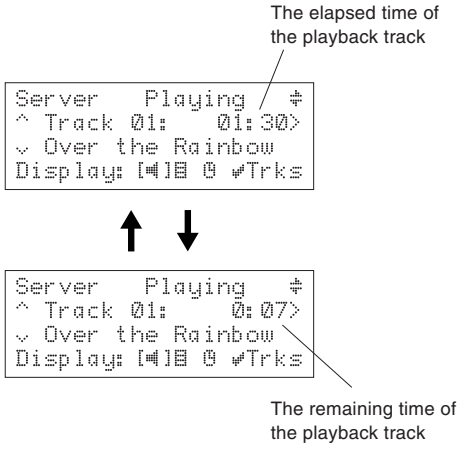
Playback Information

While a track is playing, you can press the Cursor ▲/▼ button to cycle through three types of playback information: Title, Album, and Artist.



Track Information

While a track is playing, you can press the Cursor ► button to cycle through the elapsed time and remaining time of the current track.


The elapsed time of the playback track
Server Playing
^ Track 01: 01:30>
⌄ Over the Rainbow
Display: [◄]■ 0 ♪Trks
Server Playing
^ Track 01: 0:07>
⌄ Over the Rainbow
Display: [◄]■ 0 ♪Trks
The remaining time of the playback track

Listening to Radio Broadcasts

You can listen to radio broadcasts either by manually tuning to a station or by selecting a preset station.

Manually tuning to a station

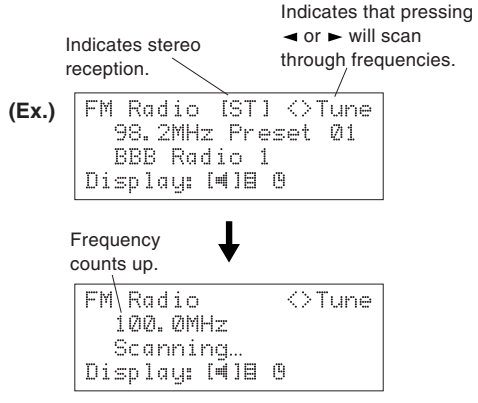
1. **Press the AUDIO INPUT button repeatedly to display "FM Radio" or "AM Radio".**

   When using the remote controller, press the TUNER button repeatedly to switch between "FM Radio" and "AM Radio".

2. **Press the Cursor ◄/► button repeatedly until your desired station's frequency is selected.**

Autotuning

For FM broadcasts, you can press and hold the Cursor ◄ or ► button for a while and then release it to have the NC-500 search for a station by tuning the frequency up or down.
(Note autotuning does not store stations in memory.)
With "<>Tune" displayed the frequency is tuned up or down until an receivable station is found.
While the scanning is in progress, a "Scanning" message are displayed on screen.



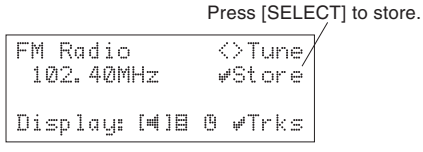
Presetting FM/AM stations

The NC-500 provides a preset memory feature that allows you to preset up to 40 FM and AM stations by tuning to your desired station and then assigning the station your desired preset number. You can define a station name of up to 15 characters for each preset station.
Caution: Leaving the NC-500 unpowered (.e.g., with the power cable disconnected) for 2 weeks or longer may result in losing all the memory contents including your preset stations and text information. If this occurs, you will need to preset your desired stations over again.

1. **Set the NC-500's selector to FM Radio or AM Radio.**

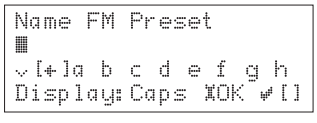
2. **Tune to your desired station (frequency) by pressing the Cursor ◄/► button repeatedly.**

   ✔STORE; indicates that you can preset the station by pressing the SELECT button.



3. **Press the SELECT button.**

   You are prompted to enter the station name.



4. Press the DISPLAY button to select which type of characters to enter.

Each time you press the DISPLAY button, the character type cycles as follows.

ABCDEFGHIJKLMNOPQRSTUVWXYZ
↓
abcdefghijklmnopqrstuvwxyz
↓
1234567890 !"#$%&'[(])*+,-./:;<=>?@⇌^ _`{|}~

Also, you can switch between the former and latter halves of the character groups by pressing the Cursor ▲/▼ button.

```
Name FM Preset
^
⌄ ✣ A B C D E F G[H]
Display:Caps ⌘OK ↵[]
```

Tips:
Pressing the SELECT button after selecting ✣ on the display deletes the blinking character.

When using the remote controller, press the CAPS button to switch the character type.

5. Select your desired character by pressing the Cursor ◄/► button repeatedly.

```
Name FM Preset
 [                ]
⌄ ✣ A[B]C D E F G H
Display:Caps ⌘OK ↵[]
```

To enter characters using the remote controller:
Each time you press a numeric button on the remote controller, the button cycles through a number of assigned letters as shown in the following example: A → B → C → A → . . . You can press the numeric key "1" on the remote controller to enter a symbol.

6. Press the SELECT button to enter the selected character.

```
Name FM Preset
 [BB▦                ]
⌄ ✣ A[B]C D E F G H
Display:Caps ⌘OK ↵[]
```

Repeat the step 5 and 6 until you enter all the character for the station name. You can enter up to 14 characters for a station name.

7. Press the SETUP button.

An available preset number appears.
If all the preset numbers are already in use, the NC-500 displays preset number 1.

Automatically displays first empty preset number.

```
Store: BBA
^ >FM Preset 1
⌄  [               ]
↵Set            ⌘Exit
```

8. Select your desired preset number and assign it to the station.

Press the Cursor ▲/▼ button to display your desired preset number.
To cancel the preset operation, press the SETUP button.

9. Press the SELECT button to save the preset station.

If your selected preset number is already in use, the new station overwrites the existing station.

```
FM Radio       <>Tune
 102.40MHz Preset 1
  BBB
Display: [◄]▦ 0 ↵Trks
```

Listening to a preset station

1. Set the input selector to FM Radio or AM Radio

Press the AUDIO INPUT button repeatedly to display “FM Radio” or “AM Radio”.
When using the remote controller, press the TUNER button repeatedly to switch between “FM Radio” and “AM Radio”.

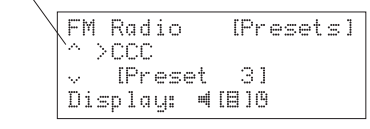
2. Press the DISPLAY button to switch to browse mode.

NC-500 Remote controller

3. Select the preset number of your desired station using the Cursor ▲/▼ button.

(Up/Down arrows appear on the left side of the display.)

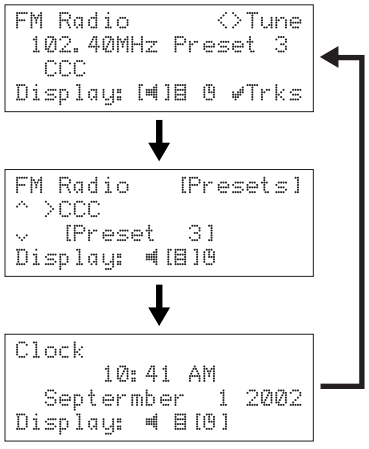
Preset Up/Down



With the remote controller, you can use the Preset Up/Down feature to directly select your desired preset number without having to change the display mode.

Switching among display modes

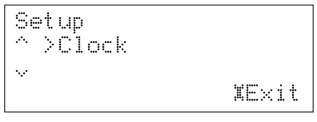
The display changes each time you press the DISPLAY button.



Switching between FM Auto and FM Mono modes

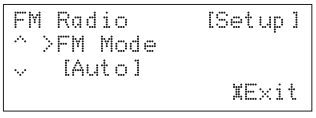
When you are receiving FM broadcasts, you can switch between Auto and Mono modes:

1. Activate menu mode.
   Press the SETUP button to display the setup items in the display area.

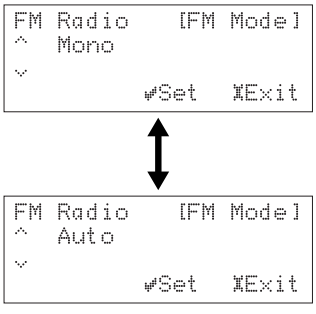


2. Press the Cursor ▲/▼ button to display “FM Radio” in the display area.
   You are presented with the following menu items in this order: Clock, Server, iNet Radio, FM Radio, AM Radio, and System.

3. Press the SELECT button.
4. Press Cursor ▲/▼ button to display “FM Mode”. Press the SELECT button.



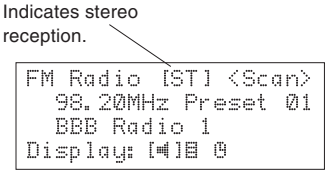
5. Press Cursor ▲/▼ button to select either “Auto” or “Mono”.



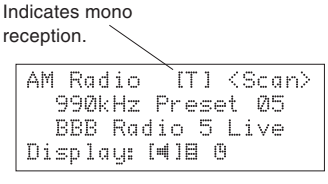
6. Press SELECT button to save the change.

To return to normal display, press the SETUP button.

Stereo display mode



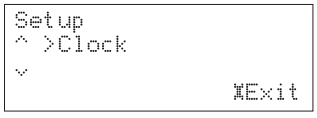
Monaural display mode



• Renaming a preset station

You can enter or edit the name of a preset channel:

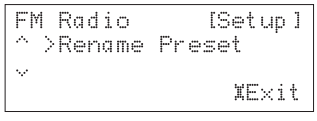
1. Activate menu mode.
   Press the SETUP button to display the setup items in the display area.



2. Press the Cursor ▲/▼ button to display “FM Radio” or “AM Radio” in the display area. You are presented with the following menu items in this order: Clock, Server, iNet Radio, FM Radio, AM Radio, and System.

   Press the SELECT button

3. Press the Cursor ▲/▼ button to display “Rename Preset” in the display area.



   Press the SELECT button.

4. Use Cursor ▲/▼ button to select the preset station whose name you want to change.

   Press the SELECT button.

5. Press the |◄◄ / ◄◄ or ►► / ►►| button to select the character to be replaced and press the Cursor ◄/► button to select the new character. Press the SELECT button to enter the new character. After you have made all the necessary changes, press the SETUP button.

To return to normal display, press the SETUP button.

• Deleting a preset station

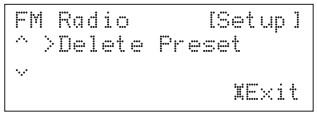
You can delete a preset station:

1. Activate menu mode.
   Press the SETUP button to display the setup items in the display area.

2. Press the Cursor ▲/▼ button to display “FM Radio” or “AM Radio” in the display area.
   You are presented with the following menu items in this order: Clock, Server, iNet Radio, FM Radio, AM Radio, and System.

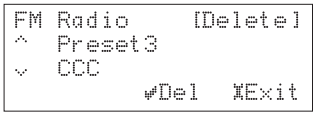
   Press the SELECT button.

3. Press the Cursor ▲/▼ button to display “Delete Preset”.



   Press the SELECT button.

4. Use the Cursor ▲/▼ button to select the preset station you want to delete.

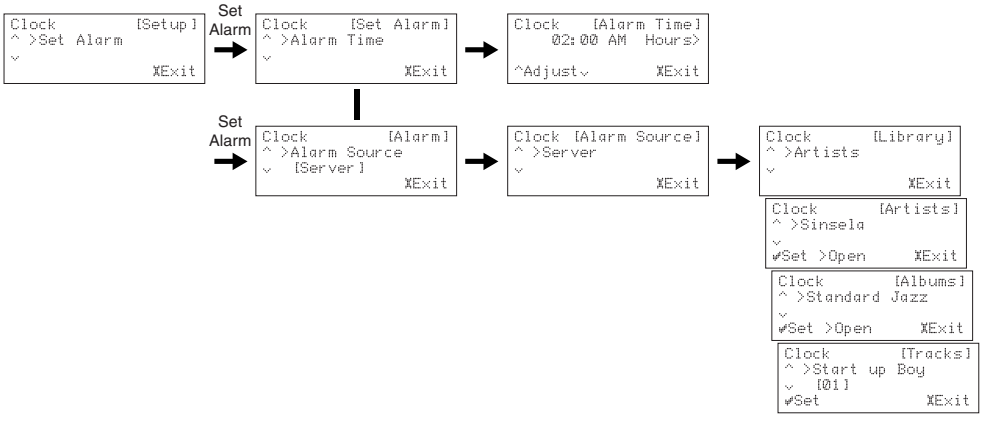


   Press the SELECT button.
   The preset station is deleted.

To return to normal display, press the SETUP button.

Using timer functions

The following flow chart presents the setup menu screens you navigate through when setting up the clock and alarm:



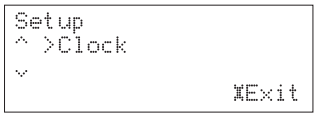
Alarm feature

Alarm Settings

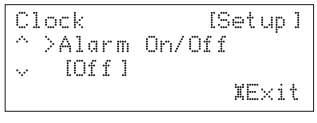
When the set time is reached, the NC-500 will be turned on and start playing audio from the specified input source. The alarm feature works in standby power mode only. Once you have configured the settings, switch to standby power mode.

1. Activate menu mode.

Press the SETUP button to display the setup items in the display area.

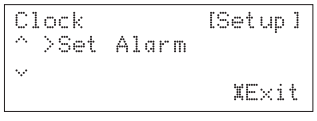


2. Press the SELECT button.



3. Press the Cursor ▲/▼ button to display "Set Alarm" in the display area.

Press the SELECT button.



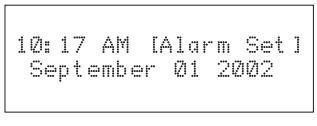
4. Set the alarm start time and alarm source.

For details, see "Setting the alarm start time" and "Setting the alarm source" on page 47.

5. Press the STANDBY/ON button to allow the NC-500 to enter the standby mode.

While the NC-500 is turned on, the alarm function will not be activated.

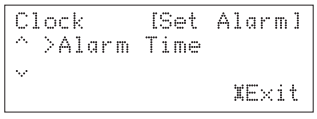
The clock display while the timer function is set



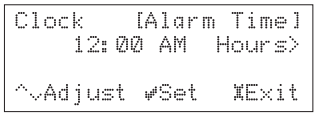
Setting the alarm start time

After completing the step 3 on page 46, do the following procedures.

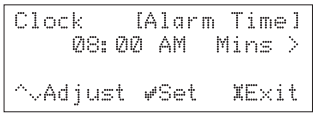
1. Press the Cursor ▲/▼ button to display “Alarm Time” in the display area.
   Press the SELECT button.



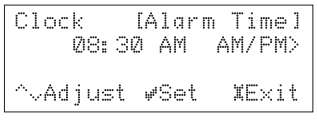
2. Press the Cursor ▲/▼ button to set the hour.



3. Press the Cursor ► button to display “Mins”.
   Press the Cursor ▲/▼ button to set the minute.



4. Press the Cursor ► button to display “ AM/PM” when you use the 12-hour format.
   Press the Cursor ▲/▼ button to select either “AM” or “PM”.



5. Press the SELECT button to save the settings you have just made.

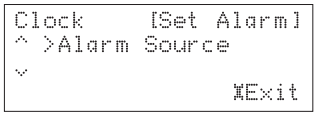
To return to normal display, press the SETUP button.

Setting the alarm source

After completing the step 3 on page 46, do the following procedures.

You can select the server, Internet radio, or FM/AM radio as the playback source.

1. Press the Cursor ▲/▼ button to display “Alarm Source” in the display area.
   Press the SELECT button.



2. Use Cursor ▲/▼ to select the playback source.
   Press the SELECT button to save the settings you have just made.

3. Select a track (server) or preset station (AM/FM radio/Internet radio) to play.

- When using the server as the playback source, you can select the title to play with the Cursor ▲/▼ button, just as you do in normal play mode selection.
- When using Internet radio as the playback source, you can select your desired preset station number with the Cursor ▲/▼ button.
- When using FM/AM radio as the playback source, you can select your desired preset station number with the Cursor ▲/▼ button.

  Press the SELECT button to save the settings

To return to normal display, press the SETUP button.

Notes:

If you select a title on the server or an Internet radio title and the title cannot be played for some reason (such as the PC being shut down), the NC-500 will automatically choose the FM or AM station that was used the last time.

Turning on or off the alarm function

You can turn on or off the alarm function.

1. Activate menu mode.

Press the SETUP button to display the setup items in the display area.

NC-500 **Remote controller**

```
Setup
^ >Clock
v
                  ↵Exit
```

Press the SELECT button.

2. Press the Cursor ▲/▼ button to display "Alarm On/Off" in the display area.

```
Clock          [Setup]
^ >Alarm On/Off
v   [Off]
                  ↵Exit
```

Press the SELECT button.

4. Press the Cursor ▲/▼ button to select "On" or "Off".

```
Clock  [Alarm On/Off]
^  On
v
            ↵Set ↵Exit
```

5. Press the SELECT button to save the change.

To return to normal display, press the SETUP button.

Turning off the timer function

Press the STANDBY button either on the NC-500 or the remote controller, and then the NC-500 is turned off.

If you press the DISPLAY button instead of the STANDBY button, the timer function is disabled and the NC-500 remains to be turned on.

Snooze feature

While the timer playback works, the NC-500 provides a snooze feature that temporarily silences the alarm and sounds the alarm again after 5 minutes.

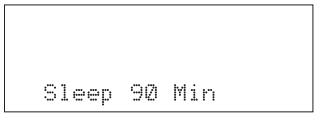
Enabling the snooze feature

Pressing the SELECT button while the timer is operating puts the NC-500 into snooze standby mode.
After 5 minutes, the snooze feature sounds the alarm again.

```
Clock        [Alarm!!]
      07:00 AM
  February 23 2002
Display       ↵Snooze
```

Sleep timer

The sleep timer puts the NC-500 into standby mode when the set time elapses.
The sleep timer can be configured from the remote controller only.
Press the SLEEP button to set the time that must elapse before the NC-500 is put into standby mode.
When you press the SLEEP button on the remote controller for the first time, the “SLEEP90” appears in the display, meaning that the NC-500 will be put into standby mode after 90 minutes. Subsequently, each time you press the button, the time setting is reduced in decrements of 10 minutes.
You can use the Cursor ▲/▼ button to change the time setting in minutes.
While the sleep timer function is set, “[Sleep]” appears in the display.



To disable the sleep timer setting, press the SLEEP button repeatedly until “SLEEP” indication disappears.

Listening to Internet radio

Internet radio refers to radio stations that broadcast music and other programs via streaming audio access on the Internet. The NC-500 allows you to enjoy Internet radio at a high sound quality.
When you turn on the NC-500 from the standby mode, the NC-500 will connect to the station last time you listened to.

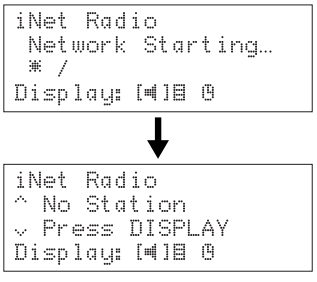
Listening to Internet radio

1. Make sure that you are connected to the Internet.

For information on configuring the NC-500's network settings, see "Configuring Various Settings" (see page 57).

2. Set the NC-500's input source to "Internet Radio":

Press the AUDIO INPUT button repeatedly or the iNet RADIO button on the remote controller to display "Internet Radio".

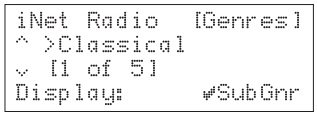


3. Select a key for searching your desired programs:

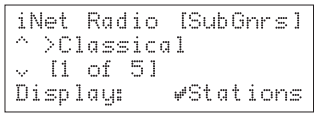
Press the DISPLAY button to switch to browse mode.
Press the Cursor ▲/▼ button repeatedly to select one of the available search keys (Genres, Location, Language) and then press the SELECT button.

• Genre

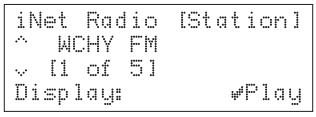
Press the Cursor ▲/▼ button repeatedly to select "Main Genre" and then press the SELECT button.



Press the Cursor ▲/▼ button repeatedly to select "Sub Genres" and then press the SELECT button.



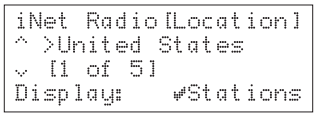
Press the Cursor ▲/▼ button to select your desired station.



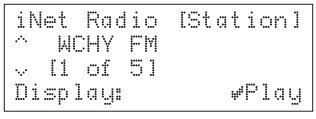
To return to normal display, press the SETUP button.

• Location

Press the Cursor ▲/▼ button repeatedly to select your desired country and then press the SELECT button.

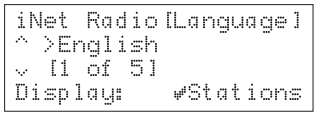


Press the Cursor ▲/▼ button to select your desired station.

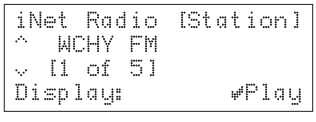


• Language

Press the Cursor ▲/▼ button repeatedly to select your desired language and then press the SELECT button.



Press the Cursor ▲/▼ button to select your desired station.



4. Start receiving Internet radio:

Press the SELECT button to start receiving Internet radio.

The NC-500 starts buffering the radio data, and after the buffering status comes to "100%", the NC-500 starts playing the Internet radio.
It will take few tens of seconds to complete buffering.

Tip:

While the Internet radio station service is not available, "Stream Access Error" is displayed.

Presetting Internet radio statios

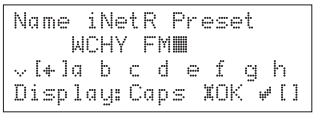
The NC-500 allows you to save your favorite Internet radio station in the preset memory. Once you have saved your favorite stations in the preset memory, you can directly select one of the preset stations using the Preset ▲/▼ button on the remote controller. You can preset up to 20 stations.

Caution: Leaving the NC-500 unpowered (.e.g., with the power cable disconnected) for 2 weeks or longer may result in losing all the memory contents including your preset stations and text information. If this occurs, you will need to preset your desired stations over again.

1. Tune to your desired station.

2. Press the SELECT button.

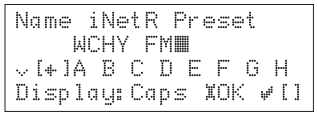
You are prompted to enter the station name.



If you don't need to enter the station name, press the SETUP button.

3. Press the DISPLAY button to select which type of characters to enter.

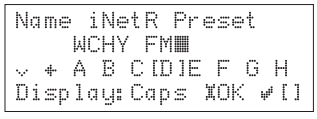
Each time you press the DISPLAY button, the character type cycles through uppercase letters, lowercase letters, and numerals/ symbols.
Also, you can switch between the former and latter halves of the character groups by pressing the Cursor ▲/▼ button.



Tips:
Pressing the SELECT button after selecting ✣ on the display deletes the blinking character.

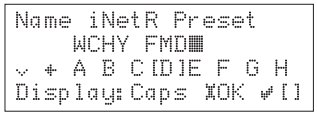
When using the remote controller, press the CAPS button to switch the character type.

4. Select your desired character by pressing the Cursor ◄/► button repeatedly.



To enter characters using the remote controller:
Each time you press a numeric button on the remote controller, the button cycles through a number of assigned letters as shown in the following example: A → B → C → A → . . . You can press the numeric key "1" on the remote controller to enter a symbol.

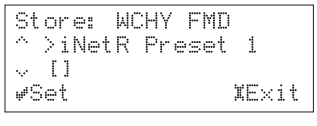
5. Press the SELECT button to enter the selected character.



Repeat the step 4 and 5 until you enter all the character for the station name. You can enter up to 14 characters for a station name.

6. Press the SETUP button.

An available preset number appears.
If all the preset numbers are already in use, the NC-500 displays preset number 1.



7. Select your desired preset number and assign it to the station.

Press the Cursor ▲/▼ button to display your desired preset number. To cancel the preset operation, press the SETUP button.

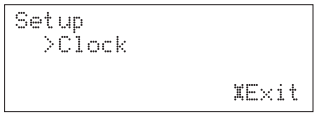
8. Press the SELECT button to save the preset station.

If your selected preset number is already in use, the new station overwrites the existing station.

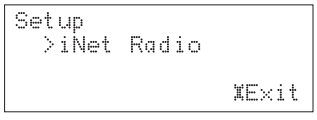
• Renaming a preset Internet radio station

You can enter or edit the name of a preset channel:

1. Activate menu mode.
   Press the SETUP button to displays the setup items in the display area.

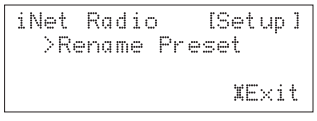


2. Press the Cursor ▲/▼ button to display “iNet Radio” in the display area.
   You are presented with the following menu items in this order: Clock, Server, iNet Radio, FM Radio, Am Radio, and System.



   Press the SELECT button

3. Press the Cursor ▲/▼ button to display “Rename Preset” in the display area.



   Press the SELECT button.

4. Use Cursor ▲/▼ button to select the preset station whose name you want to change.

   Press the SELECT button.

5. Press the ⏮ / ◄◄ or ►► / ⏭ button to select the character to be replaced and press the Cursor ◄/► button to select the new character. Press the SELECT button to enter the new character. After you have made all the necessary changes, press the SETUP button.

To return to normal display, press the SETUP button.

• Deleting a preset station

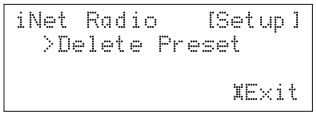
You can delete a preset station:

1. Activate menu mode.
   Press the SETUP button to display the setup items in the display area.

2. Press the Cursor ▲/▼ button to display “iNet Radio” in the display area.
   You are presented with the following menu items in this order: Clock, Server, iNet Radio, FM Radio, AM Radio, and System.

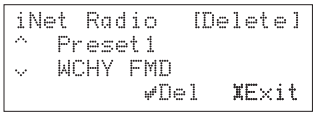
   Press the SELECT button.

3. Press the Cursor ▲/▼ button to display “Delete Preset”.



   Press the SELECT button.

4. Use the Cursor ▲/▼ button to select the preset station you want to delete.



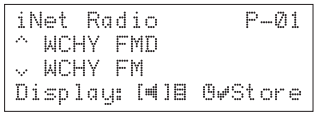
   Press the SELECT button.
   The preset station is deleted.

To return to normal display, press the SETUP button.

Listening to a preset Internet radio station

1. **Set the input selector to Internet Radio.**

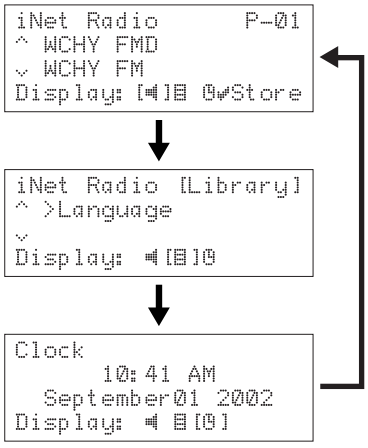
2. **Select the preset number of your desired station using the PRESET ▲/▼ button on the remote controller.**



Viewing information on the display

Switching among display modes

The display changes each time you press the DISPLAY button.



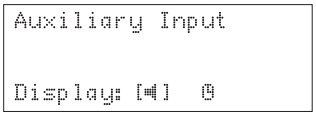
For some Internet radio stations, you can change the station information using the Cursor ▲/▼ button.

Supported Music Formats

The NC-500 supports the Wave, MP3, and WMA audio file formats.

Listening to Music from an External Player

1. **Set the input source to Auxiliary Input.**



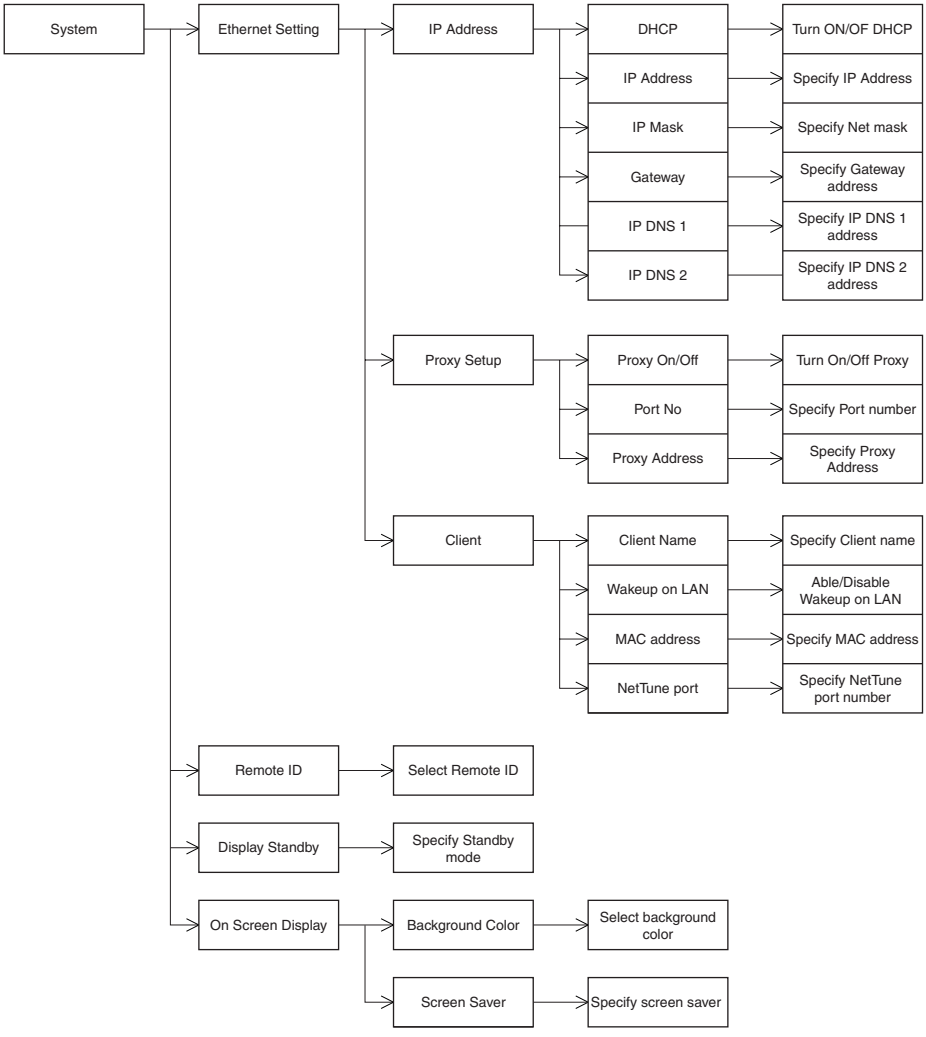
2. **Start the external player connected to the NC-500.**

External player

Configuring Various Settings

Network Settings

Before you can use the NC-500 to play music contained in the music library on the Net-Tune server and listen to Internet radio, you must correctly configure the NC-500's network settings so that it can connect to your LAN and the Internet.
It is strongly recommended to use a broadband connection (via an xDSL or CATV leased line) and a router. If you are connected to the Internet via a narrowband dialup connection, you may not be able to enjoy Internet radio as you expect or at all.
Before setting up the NC-500, make sure that you are already using a router that provides Internet access and that the NC-500 is correctly connected with your router or hub via a LAN cable.
For more information on Internet connectivity, consult with your ISP (Internet Service Provider) or refer to the documentation of your router.



Ethernet settings

After your setting completes, it will take about two seconds to write the setting to the NC-500. If you turned off the NC-500 before completing writing the setting, the setting will be lost. In such case, do the necessary setting again.

1. Activate menu mode.

Press the SETUP button to display the setup items in the display area.

```
Setup
^ >Clock
v
                  Exit
```

2. Select the System setting menu.

Press the Cursor ▲/▼ button repeatedly to display "System" in the display area.
You are presented with the following menu items in this order: Clock, Server, iNet Radio, FM Radio, AM Radio and System.

```
Setup
^ >System
v
                  Exit
```

Press the SETUP button.

3. Select "Ethernet Setting."

Select "Ethernet Setting" using the Cursor ▲/▼ button, and press the SELECT button.

```
System          [Setup]
^ >Ethernet Settings
v
                  Exit
```

IP Address settings:

From the "System" → "Ethernet Settings," select "IP Address" using the Cursor ▲/▼ button, and press the SELECT button.

- **Turning on or off the DHCP feature:**

From the "System" → "Ethernet Settings" → "IP Address" setup menu, select "DHCP" using the Cursor ▲/▼ button. Then press the SELECT button.

```
IP Address      [Setup]
^ >DHCP
v   [On]
                  Exit
```

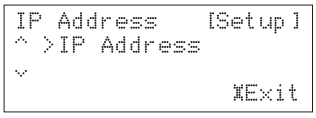
Set this setting to On if your router is enabled for DHCP using the Cursor ▲/▼ button.
With the DHCP feature set to On, the NC-500 automatically configures all the network settings. This means that you do not have to configure the following IP Address settings.
If you opt to turn off the feature, then you need to configure the following IP Address settings manually.

```
System          [DHCP]
^  On
v
            Set   Exit
```

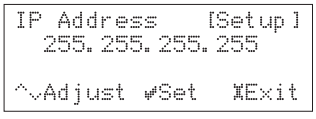
Press the SETUP button to confirm the new setting.

- **Specifying the IP address:**

  From the "System" → "Ethernet Settings" → "IP Address" setup menu, select "IP Address" using the Cursor ▲/▼ button. Then press the SELECT button.



  Enter the IP address using the Cursor ◄/► button to select the digit to change and the Cursor ▲/▼ button to change the number. Press the ▲ to increment and ▼ to decrement the number. Then press the SELECT button to confirm the new setting.

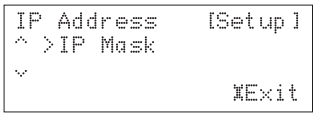


  Specify the IP address within the following range:
  CLASS A: 10.0.0.0 to 10.255.255.255
  CLASS B: 172.16.0.0 to 172.31.255.255
  CLASS C: 192.168.0.0 to 192.168.255.255

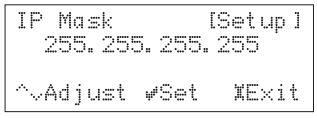
  Because the most of the routers commercially available is set to the CLASS C IP address, specify the CLASS C IP address for the NC-500. If you set the IP address out of the ranges shown above, you cannot use the Net Tune function.

- **Specifying the IP mask:**

  From the "System" → "Ethernet Settings" → "IP Address" setup menu, select "IP Mask" using the Cursor ▲/▼ button. Then press the SELECT button.

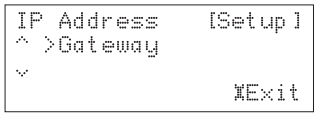


  Enter the IP mask using the Cursor ◄/► button to select the digit to change and the Cursor ▲/▼ button to change the number. Press the ▲ to increment and ▼ to decrement the number. Then press the SELECT button to confirm the new setting.

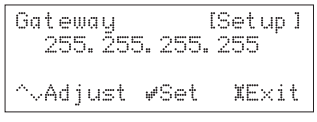


- **Specifying the gateway address:**

  From the "System" → "Ethernet Settings" → "IP Address" setup menu, select "Gateway" using the Cursor ▲/▼ button. Then press the SELECT button.

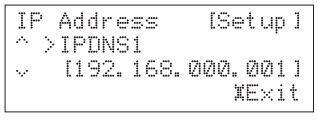


  Enter the gateway address using the Cursor ◄/► button to select the digit to change and the Cursor ▲/▼ button to change the number. Press the ▲ to increment and ▼ to decrement the number. Then press the SELECT button to confirm the new setting.

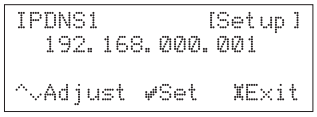


- **Specifying the DNS address:**

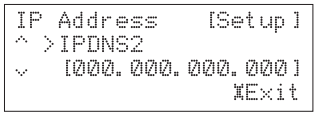
  From the "System" → "Ethernet Settings" → "IP Address" setup menu, select "IP DNS1" using the Cursor ▲/▼ button. Then press the SELECT button.



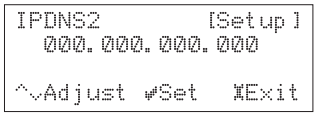
Enter the DNS1 address using the Cursor ◄/► button to select the digit to change and the Cursor ▲/▼ button to change the number. Press the ▲ to increment and ▼ to decrement the number. Then press the SELECT button to confirm the new setting.



From the "System" → "Ethernet Settings" → "IP Address" setup menu, select "IP DNS2" using the Cursor ▲/▼ button. Then press the SELECT button.



Enter the DNS2 address using the Cursor ◄/► button to select the digit to change and the Cursor ▲/▼ button to change the number. Press the ▲ to increment and ▼ to decrement the number. Then press the SELECT button to confirm the new setting.

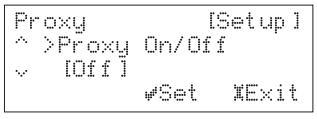


Proxy settings:

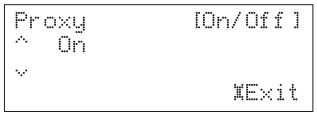
From the "System" → "Ethernet Settings" setup menu, select "Proxy Setup" using the Cursor ▲/▼ button. Then press the SELECT button.

- **Turning On/Off Proxy**

From the "System" → "Ethernet Settings" → "Proxy Setup" setup menu, select "Proxy On/Off" using the Cursor ▲/▼ button. Then press the SELECT button.



When you use the proxy server for security enhancement, set this setting to "On" to specify the Port No. and URL. When you do not use the proxy server, set this setting to "Off".



- **Specify Port number**

  From the "System" → "Ethernet Settings" → "Proxy Setup" setup menu, select "Port No" using the Cursor ▲/▼ button. Then press the SELECT button.

```
Proxy          [Setup]
^ >Port No
v   [08080]
                 ↵Exit
```

  Enter the port number using the Cursor ◄/►/▲/▼ button, and then press the SELECT button to confirm the new setting.

```
Proxy        [Port No]
 Port No: 08080

^vAdjust ↵Set   ↵Exit
```

- **Specifying proxy URL**

  From the "System" → "Ethernet Settings" → "Proxy Setup" setup menu, select "URL" using the Cursor ▲/▼ button. Then press the SELECT button.

```
Proxy          [Setup]
^ >Proxy Address
v
                 ↵Exit
```

  Select the character to enter using the Cursor ◄/►/▲/▼ button, then press the SELECT button to enter the selected character.

```
Proxy URL      [Setup]

v[+]a b c d e f g h
Display:Caps ↵OK ↵[]
```

  After completing entering the Proxy Address, press the SETUP button.

Client Settings:

From the "System" → "Ethernet Settings" → setup menu, select "Client" using the Cursor ▲/▼ button. Then press the SELECT button.

```
Ethernet       [Setup]
^ >Client
v
                 ↵Exit
```

- **Specifying the client name (a name used to identify your NC-500 on the network)**

  You can specify the name for the NC-500 as the client name.
  From the "System" → "Ethernet Settings" → "Client" setup menu, select "ClientName" using the Cursor ▲/▼ button. Then press the SELECT button.

```
Client         [Setup]
^ >Client Name
v
                 ↵Exit
```

  Press the DISPLAY button to select the character type to enter. Each time you press the DISPLAY button, the character type cycles. Press the Cursor ◄/► button repeatedly to select your desired character. Press the SELECT button to enter the selected character.

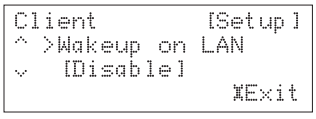
```
System   [ClientName]

v[+]a b c d e f g h
Display:Caps ↵OK ↵[]
```

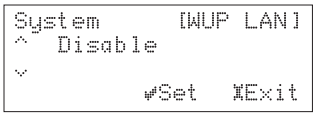
  After entering the client name, press the SETUP button to confirm the new setting.

- **Turning on or off the WOL (Wakeup On LAN) feature**

  WOL (Wakeup On LAN) allows you to turn on or off the NC-500 from some other device on the network.
  This setting is reserved for future extension and not currently available. Leave the setting at its default, "Disable".
  From the "System" → "Ethernet Settings" → "Client" setup menu, select "Wakeup on LAN" using the Cursor ▲/▼ button. Then press the SELECT button.

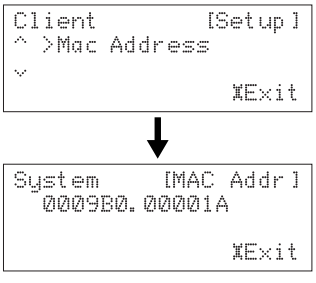


  Select either "Eable" or "Disable".
  Press the SELECT button to confirm the new setting.



- **Checking the MAC address**

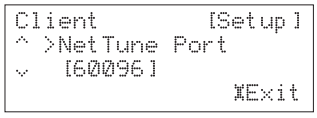
  Open the "System" → "Ethernet Settings" → "Client" setup menu, and press the Cursor ▲/▼ button repeatedly to display the MAC address of the NC-500 (the address specific to the network-interface of NC-500).



  The MAC address cannot be modified.

- **Specifying the NetTune port**

  From the "System" → "Ethernet Settings" → "Client" setup menu, select "NetTune Port" using the Cursor ▲/▼ button. Then press the SELECT button.



  Enter the NetTune Port using the Cursor ◄/►/▲/▼, and then press the SELECT button to save the entered number.
  Press the SETUP button again to confirm the new setting.

Changing the remote control code to resolve conflicts

When you use multiple NC-500s, you can change the remote control code to avoid multiple Onkyo products from operating simultaneously with one remote controller.

1. Activate menu mode.

Press the SETUP button to display the setup items in the display area.

```
Setup
^ >Clock
v
                    ↹Exit
```

2. Select the System setting menu.

Press the Cursor ▲/▼ button repeatedly to display “System” in the display area.
You are presented with the following menu items in this order: Clock, Server, iNet Radio, FM Radio, AM Radio and System.

```
Setup
^ >System
v
                    ↹Exit
```

Press the SELECT button.

3. Press the Cursor ▲/▼ button to display “Remote ID” in the display area.

```
System          [Setup]
^ >Remote ID
v   [1]
                    ↹Exit
```

Press the SELET button.

4. Press the Cursor ▲/▼ button to change the remote ID.

```
System     [Remote ID]
^   1
v
              ↵Set  ↹Exit
```

Press the SELECT button to save the change.

To return to normal display, press the SETUP button.

Tips:
Make sure to use the same remote ID as the one for the remote controller (see page 17). If the remote IDs do not match between the NC-500 and remote controller, the NC-500 will not work properly when operating with the remote controller.

Setting the Brightness in Standby Mode

You can change the brightness in the display while the NC-500 is in the standby mode.

1. Activate menu mode.

Press the SETUP button to display the setup items in the display area.

NC-500 **Remote controller**

```
Setup
^ >Clock
v
                    Exit
```

2. Select the System setting menu.

Press the Cursor ▲/▼ button repeatedly to display “System” in the display area.
You are presented with the following menu items in this order: Clock, Server, iNet Radio, FM Radio, AM Radio and System.

```
Setup
^ >System
v
                    Exit
```

Press the SELECT button.

3. Press the Cursor ▲/▼ button to display “Display Standby” in the display area.

```
System          [Setup]
^ >Display Standby
v   [Dim]
          Set   Exit
```

Press the SELET button.

4. Press the Cursor ▲/▼ button to select your desired brightness setting.

Bright: bright
Dim: dimmed
Off: turned off

```
System        [Display]
^  Dim
v
          Set   Exit
```

Press the SELECT button to save the change.

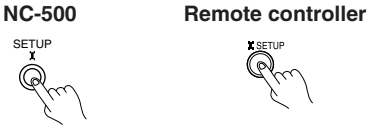
To return to normal display, press the SETUP button.

Changing the On Screen Display Background Color

You can change the On Screen Display background color. If you use multiple NC-500s, it is easier to identify each NC-500 by using different colors.

1. Activate menu mode.

Press the SETUP button to display the setup items in the display area.




```
Setup
^ >Clock
v
                    Exit
```

2. Select the System setting menu.

Press the Cursor ▲/▼ button repeatedly to display "System" in the display area.
You are presented with the following menu items in this order: Clock, Server, iNet Radio, FM Radio, AM Radio and System.

```
Setup
^ >System
v
                    Exit
```

Press the SELECT button.

3. Press the Cursor ▲/▼ button to display "On Screen Display" in the display area.

```
System          [Setup]
^ >On Screen Display
v
                    Exit
```

Press the SELECT button.

- **Changing the background color**

Press the Cursor ▲/▼ button to display "Background Color."

```
System          [Setup]
^ >Background Color
v
                    Exit
```

Press the SELECT button.

Press the Cursor ▲/▼ button to select your favorite color.
You can choose a background color from seven colors: Blue 1, Blue 2, Green 1, Green 2, Magenta, Red 1, or Red 2.

```
System   [Background]
^  Blue 1
v
                    Exit
```

Press the SELECT button to confirm the new setting.

- **Setting the duration before the screen saver activates**

Press the Cursor ▲/▼ button to display "Screen Saver."

```
System          [Setup]
^ >Screen Saver
v   [Off]
                    Exit
```

Press the SELECT button.

Press the Cursor ▲/▼ button to select the desired duration.
You can choose from the following duration setting: "Off" or 1-60 minutes (in minutes).

```
System[Screen Saver]
^  Off
v
              Set  Exit
```

Press the SELECT button to confirm the new setting.

To return to normal display, press the SETUP button.

Net-Tune Server Settings

You must determine which PC(s) on your LAN should function as the Net-Tune server. There must be at least one PC running the Net-Tune Central software on the same LAN as the NC-500. When you play digitally recorded music via the NC-500, you will need to connect to a Net-Tune server and access its music library.

The NC-500 searches for a server when it is connected to the network for the first time, and sets the preferred server parameter to the first server found; however, you can change this setting any time from the setup menu. Once you have selected a server from the menu, that server will be used as the preferred server; that is, the NC-500 will first attempt to access your selected server next time it is connected to the network.

If there is no server accessible on the network, the NC-500 displays a "Server Timeout" message.

1. **Make sure that the Net-Tune Central software is running on at least one PC on your LAN.**

   For information on the Net-Tune Central, see the Net-Tune Central Help.

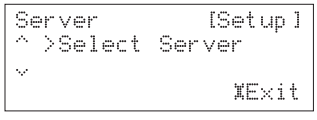
2. **Check the network connection between the NC-500 and the Net-Tune server computer.**

   Make sure that the NC-500 is connected to the same LAN as the Net-Tune server.

3. **Choose your desired server.**

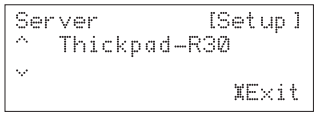
   Press the SETUP button, select "Server" using the Cursor ▲/▼ button, and press the SELECT button.

   You are presented with the "Select Server" setup menu.

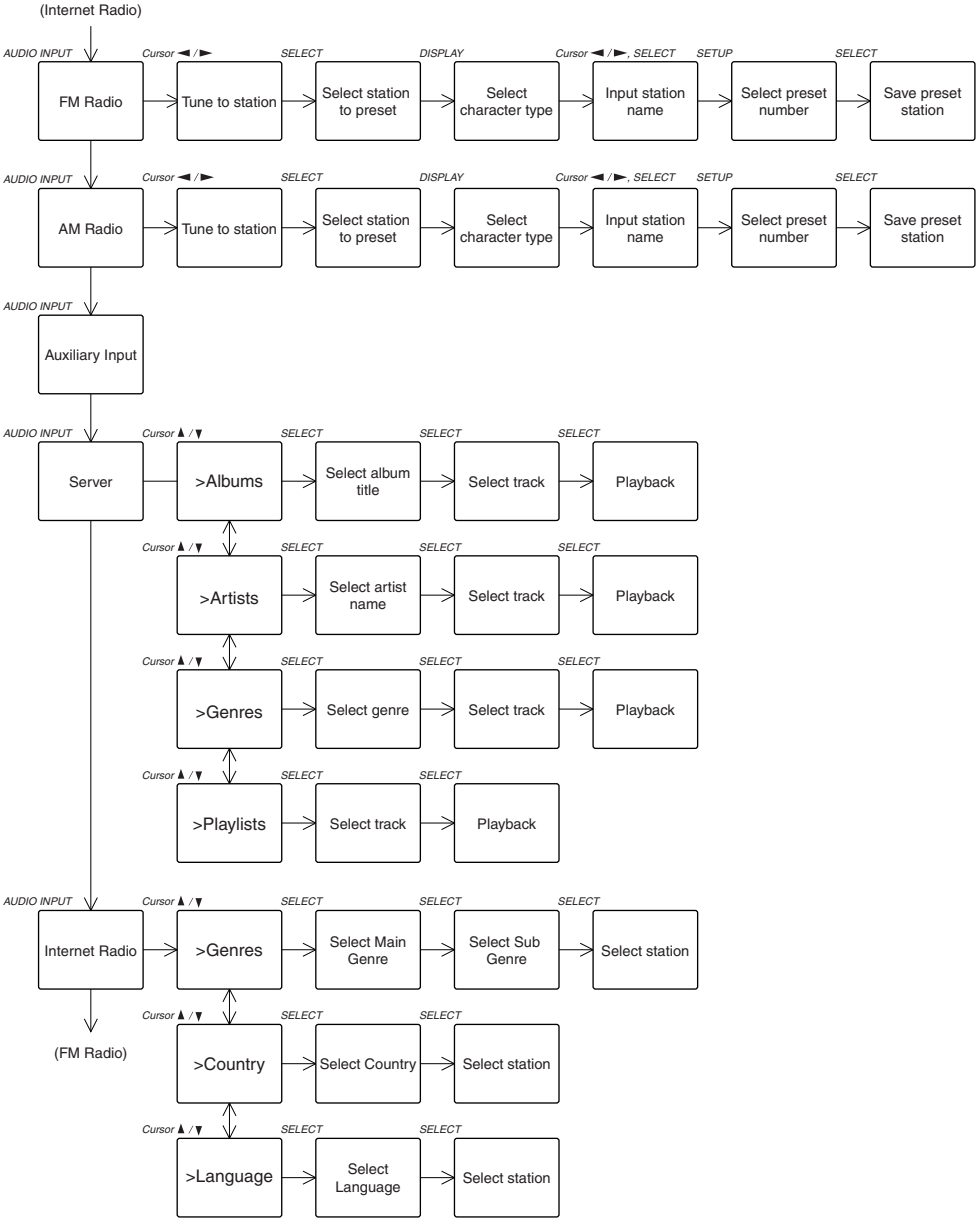
   Press the SELECT button to list the names of available servers.

   Press the Cursor ▲/▼ button repeatedly to select your desired server and then press the SELECT button.

On Screen Display (OSD)

OSD menu flowchart



Troubleshooting

POWER

The power to system is not turned on.

→ Make sure that power cable is plugged into the AC outlet (see page 26).

→ Unplug the power cable from AC outlet, wait for five seconds or more, then plug the cable in again (see page 26).

SPEAKER

The sound is not heard

→ Make sure the speakers are connected correctly and the speaker cables' core wires touch the speaker connectors (see page 18).

→ Check to see if the volume level is set to minimum (see page 27).

→ If the MUTNG indicator is flashing, the sound is muted. Cancel the muting function (see page 27).

FM/AM TUNER

Noise is heard during broadcast, or too much white noise is heard during an FM stereo broadcast.

→ Change the location of the antenna (see page 24).

→ Locate the unit further from the TV or computer (see page 24).

→ Driving cars nearby or flying airplanes could cause noise.

→ The broadcasting radio signal may be weak if a concrete wall obstructs the signal path .

→ Try to setting FM mode to 'Mono' (see page 43).

→ Noise may be heard when you operate the remote controller during AM reception.

→ If nothing can improve the reception, install an outdoor antenna (see pages 23, 24).

REMOTE CONTROLLER

The remote controller does not function correctly.

→ Make sure that the batteries have been installed in the correct direction (polarity +/–) (see page 11).

→ Replace both batteries with new ones. (Do not mix different types of batteries or new and old batteries.) (See page 11.)

→ The distance between the remote controller and the remote control sensor may be too far. Or, there may be an object between them (see page 11).

→ The remote control sensor on the unit may be receiving a strong beam of light (inverter fluorescent light or sunlight) (see page 11).

→ Make sure to use the same REMOTE ID code both for the remote controller and NC-500 (see pages 17, 63).

TIMER

Timer playback does not work.

→ The clock should be set correctly. If the clock is not set, timer playback does not work. Make sure you program the current day and time (see page 28).

→ If you select "Server" or "iNetRadio" and the media cannot be played for some reason (such as the PC being shut down), the NC-500 will automatically receive FM or AM radio (see page 47).

ETHERNET NETWORK

The unit fails to activate the Internet radio or music server feature.

- Imperfect network connection.
  - → Check the connection between this unit and the LAN side port of your router (gateway) (see page 19).
  - → Make sure that the modem and router (gateway) are correctly connected. Also, make sure that the power is on (see page 19).

Intermittent sound.

- Excessive load on the network or server.
  - → Add more RAM to your PC. Make sure that your system satisfies all the system requirements listed on page 19.
  - → If you are downloading or copying a large size file on your PC, temporarily stop the process.

The unit fails to obtain a station list from an Internet radio site.

- The radio site is now out of service or otherwise inaccessible due to some other reason such as maintenance.
  - → Try to access the site after a while.

Selecting the "Server" fails to play music or fails to connect to the server.

- Your PC is not turned on, or Net-Tune Central is not running.
  - → Turn on your PC, and start Net-Tune Central.
- No audio files found on the server.
  - → Create MP3, MWA, and/or WAVE audio files on your PC, and use Net-Tune Central to create the list of audio files saved on your PC (see the Net-Tune Central Help).

Search by album returns no match

- The audio file list of Net-Tune Central contains no files that have album names.
  - → Assign album names to the files contained in the audio file list of Net-Tune Central (see the Net-Tune Central Help).

Search by artist returns no match.

- The audio file list of Net-Tune Central contains no files that have artist names.
  - → Assign artist names to the files contained in the audio file list of Net-Tune Central (see the Net-Tune Central Help).

Search by genre returns no match.

- The audio file list of Net-Tune Central contains no files that have genre names.
  - → Assign genre names to the files contained in the audio file list of Net-Tune Central (see the Net-Tune Central Help).

No playlist can be selected.

- You have not yet created any playlist in Net-Tune Central.
  - → Create playlists in Net-Tune Central (see the Net-Tune Central Help).

Error messages

Input source	Client FL display message	Meaning
Server	**No Albums**	Unable to find the album information during searching the music library.
Server	**No Artists**	Unable to find the artist information during searching the music library.
Server	**No Genres**	Unable to find the genre information during searching the music library.
Server	**No Playlists**	Unable to find the playlist during searching the music library.
Server	**No Tracks**	Unable to find the track during searching the music library.
Server	**Session Over**	Unable to connect the Net-Tune server because of exceeding the limit of available connections. Three or more NC-500 cannot be connected to the Net-Tune server simultaneously.
Server	**Unsupported Format**	The track using unsupported format was selected during searching the music library.
Server	**List Changed**	The music library on the Net-Tune server is updated. The selected list is discarded and the selecting operation is reset. Select tracks for new playlist again.
Server	**Server Timeout**	The Net-Tune server does not respond. Check the operation status for the Net-Tune server.
Server	**Server not available**	The Net-Tune server function is not available. A global IP address may be set for the IP address setting.
Server	**Stream Error**	There is an error for playing the audio stream. The server load may be increased, which may result from too many client connections, too much PCM stream distribution, any other applications on the Net-Tune server, and so on. Take the appropriate measures
Server	**TrackList Over →** **[1 of 999]** **AlbumList Over →** **[1 of 999]** **ArtistList Over →** **[1 of 999]** **PlaylistList Over →** **[1 of 999]**	The list you selected contains 1,000 or more tracks. You can add up to 999 tracks per list. Divide the list into several lists so that each list contains 999 or fewer tracks, which enables you to play all tracks in a list (see the Net-Tune Central Help).
Internet Radio	**No Genres**	Unable to retrieve the genre information during searching the Internet radio stations.
Internet Radio	**No Languages**	Unable to retrieve the language information during searching the Internet radio stations.
Internet Radio	**No Countries**	Unable to retrieve the country information during searching the Internet radio stations.
Internet Radio	**No Sub Genres**	Unable to retrieve the sub-genre information during searching the Internet radio stations.

Troubleshooting

Input source	Client FL display message	Meaning
Internet Radio	**No Stations**	Unable to connect the station during searching the Internet radio stations.
Internet Radio	**Stream Access Err**	Unable to receive the streaming data from the selected Internet radio station.
Internet Radio	**No Stream**	Unable to play the selected Internet radio station. Select other Internet radio stations.
Internet Radio	**iNet Radio Timeout**	Receiving the streaming data from the Internet radio station is timed out.
FM/AM/ Internet Radio	**No Presets**	There are no preset radio stations for FM, AM and Internet radio.
Server/ Internet Radio	**Playback Denied**	Tried to play the content with protection. Cancel the protection before ripping the content. The content also may not be played when you copy it to other PCs.

This product used a micro computer to perform various advanced functions. However, noise, radio interference, or static electricity could occasionally cause the unit to malfunction. In this case, unplug the power cable from the AC outlet, then plug it in again in five seconds.

Onkyo is not responsible for damages (such as CD rental fees) due to unsuccessful recordings caused by the unit's malfunction. Before you record important data, make sure that the material will be recorded correctly.

Restoring the factory default settings:
To reset all the stored settings to the factory default conditions, while the power to the NC-500 is on, press and hold down the STOP button on the unit, and press STANDBY/ON button.

Specifications

Amplifier Section

Power output

FTC **15 watts per channel, min RMS, at 8 ohms, both channels driven 1 kHz, with no more than 0.1%**

DIN 2 × 17 watts at 6 Ω, 1 kHz
2 × 15 watts at 8 Ω, 1 kHz

Dynamic power output

2 × 27 watts at 6 Ω
2 × 24 watts at 8 Ω

Total harmonic distortion

0.1% at rated power

IM distortion

0.6% at rated power

Damping factor

30 at 8 Ω

Input Sensitivity and Impedance

TAPE/MD PLAY: 150 mV, 50 kΩ
LINE IN: 150 mV, 50 kΩ

Frequency and response

10 to 50,000 Hz +0 /–3 dB

Signal to noise ratio

100 dB (IHF-A)

Muting

–60 dB

Tuner Section

Tuning range

FM: 87.50–108.00 MHz (100 kHz steps)
(U.S. & Canadian models)
87.5–108.00 MHz (50 kHz steps)
(Other area models)
AM: 530–1710 kHz (10 kHz steps)
(U.S. & Canadian models)
522–1611 kHz (9 kHz steps)
(Other area models)

Usable sensitivity

FM: Mono 11.2 dBf,
1.0 µV (75 Ω IHF)
0.9 µV (75 Ω DIN)
Stereo 17.2 dBf,
2.0 µV (75 Ω IHF)
23.0 µV (75 Ω DIN)
AM: 30 µV

50 dB Quieting sensitivity

FM: Mono 17.2 dBf, 2.0 µV (75 Ω)
Stereo 37.2 dBf, 20.0 µV (75 Ω)

Capture ratio

FM: 2.0 dB

Image rejection ratio

FM: 40 dB (U.S. & Canadian models)
85 dB (Other area models)
AM: 40 dB

IF rejection ratio

FM: 90 dB
AM: 40 dB

Signal to noise ratio

FM: Mono 73 dB, IHF
Stereo 67 dB, IHF
AM: 40 dB

Selectivity

FM: 50 dB DIN
(±300 kHz at 40 kHz Devi.)

AM Suppression Ratio

50 dB

Harmonic distortion

FM: Mono 0.2%
Stereo 0.3%
AM: 0.7 %

Frequency response

FM: 30–15,000 Hz (±1.5 dB)

Stereo separation

FM: 45 dB at 1,000 Hz
30 dB at 100 to 10,000 Hz

Stereo threshold

FM: 17.2 dBf, 2.0 µV (75 Ω)

Specifications

General

Clock precision
monthly error: ±30 seconds
(at 25 °C (77 °F))

Power supply
AC 120 V, 60 Hz

Power consumption
58 W (120 V, 60 Hz)

Standby power
8 W

Dimensions (W X H X D)
205 × 91 × 279 mm
8-1/16" × 3-9/16" × 11"

Weight
3.9 kg, 8.6 lbs

Specifications and external appearance are subject to change without notice as a result of product improvement.

Memo

Memo

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